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TECHNICAL REPORT
87-55-ES

ARTHROPODS OF MEDICAL IMPORTANCE
IN AFRICA

Part II of Two Parts, Printed Separately

by

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February 1967

Project Reference:
1V025001A129

Series:
ES-31

U. S. Army Materiel Command
U. S. ARMY NATICK LABORATORIES
Natick, Massachusetts 01760

ARTHROPODS OF MEDICAL IMPORTANCE

IN AFRICA .

PART II .

Data on Arthropods other than Mosquitoes .

[Part I, published separately, contains:
Introductory and Explanatory Material and
Data on Mosquitoes] AD 650931

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INDEX OF COUNTRIES OF AFRICA

In 1962 a world-wide Geographic Index was published* listing all countries or major regions, in alphabetical order, and assigning to each country a number. The following list consolidates the countries of Africa from that Index, and makes some additions to it. The countries, as named at the time of publication of the present report, are shown on the adjacent map.

All the numbers of African countries are listed in order. All the entries in this report use these numbers instead of the country name. For example, when number 8 is entered, it stands for Algeria; 39 stands for Lesotho. Where the authors have not recorded the specific country, an inclusive title is entered, e.g., 4 for Africa. This is the principal purpose of the Index: to identify the countries represented by numbers under DISTRIBUTION (Table 1) or COUNTRY (Table 2).

The Index also includes at least the major synonyms. The synonymy is preceded by a dash (the numbers appear with the main entries). For example, the first entry in the Index below is "- Abyssinia or Ethiopia 102". The main listing is (in both numerical and alphabetical order) "102. Ethiopia or Abyssinia".

All the countries in the 1962 Index are listed and cross-referenced, through "334. Zanzibar" (the last number) and "- Zululand, also called Natal 216" (the last synonym).

The Addenda to the original Geographic Index start with number 344. The numerical order is maintained, but not the alphabetical order. However, entries from the Addenda are cross-referenced alphabetically in the main list. For example, in the main list we have "- Tanzania 364 . . .".

* B.V. Travis, Herbert H. Casewell, Jr., William B. Rowan, Helle Starcke (all of Cornell University) and Carl W. Ross (Quartermaster Research & Engineering Command): Classification and coding system for compilations from the world literature on insects and other arthropods that affect the health and comfort of man, Headquarters, Quartermaster Research & Engineering Command, U.S. Army, Quartermaster Research & Engineering Center, Natick, Massachusetts, Technical Report ES-4, 259 pp., 1962.

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* * * * *

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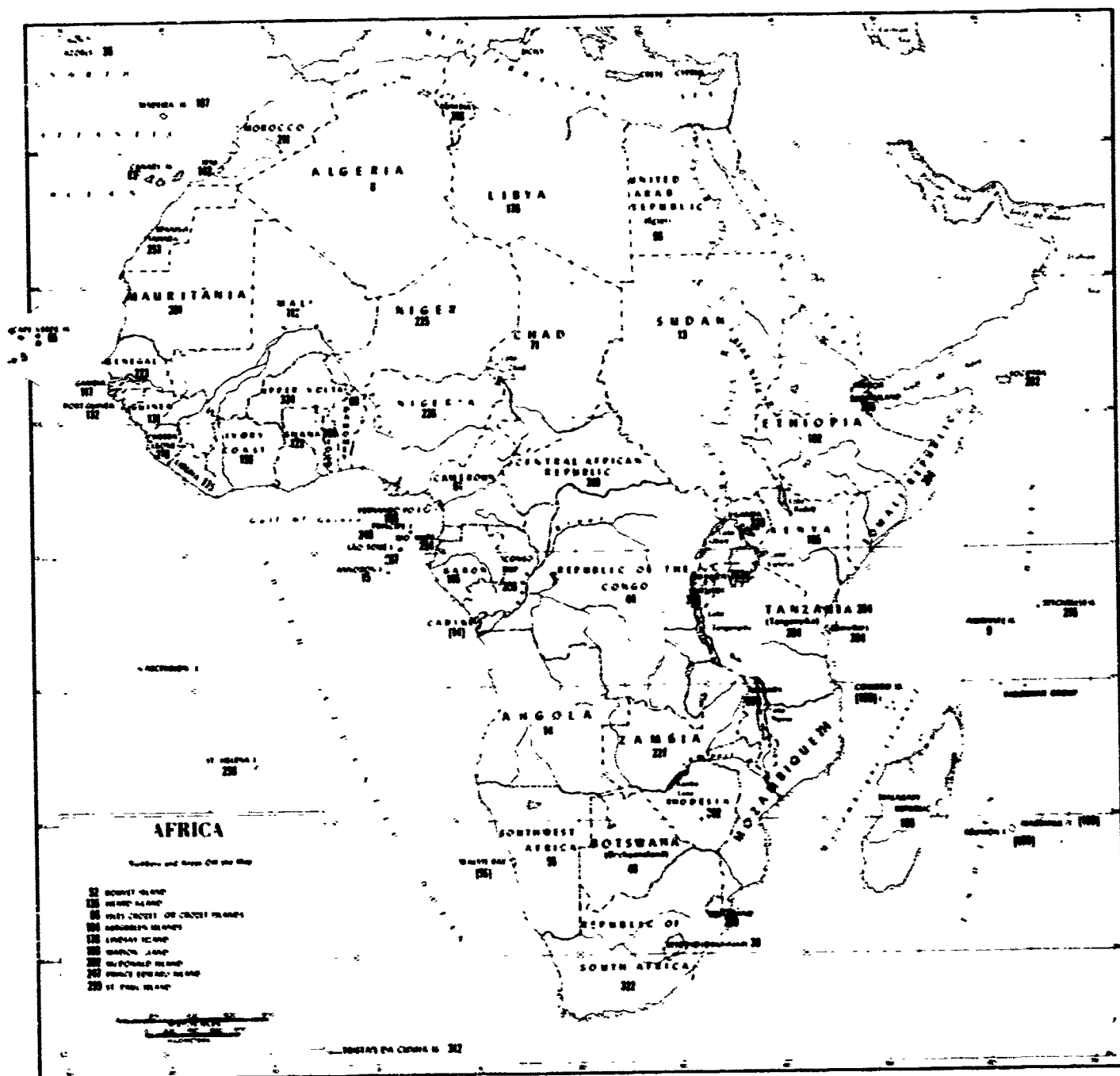
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B. BLACK FLIES

The black fly entries include little on biology and disease. Most of the recorded information is on distribution. Larvae of all but perhaps one black fly, *Simulium odensei*, from Lake Victoria occur in streams. This one species occurs in the shallow water at the edge of the lake where the water movement is by wave action.

In the tables are listed 103 species or subspecies. The entries for the unconfirmed species (Table 3) add no species to those in Table 1.

TABLE 1 - BLACK FLIES

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>ASTECA</i> <i>herero</i> Enderlein	---; ---; 57	Enderlein	1934
<i>CNEPHIA</i> <i>bernardi</i> Gibbins	---; ---; 322	Freeman & de Meillon	1953
<i>blanci</i> Grenier & Theodorides	---; ---; 8	Dorier & Grenier	1960
<i>crozetense</i> Womersley	---; ---; 56	Smart	1945
<i>damarensis</i> de Meillon & Hardy	Pock face under fast running water; ---; 56	Freeman & de Meillon	1953
<i>harrisoni</i> Freeman & de Meillon	---; ---; 322	Freeman & de Meillon	1953
<i>herero</i> Enderlein	---; ---; 56	Freeman & de Meillon	1953
<i>muspratti</i> Freeman & de Meillon	---; ---; 322	Freeman & de Meillon	1953
<i>turneri</i> Gibbins	---; ---; 322	Freeman & de Meillon	1953
<i>CNETHA</i> <i>caffraria</i> Enderlein	---; ---; 322	Enderlein	1934
<i>EUSIMULIUM</i> <i>damnosum</i> (Theobald)	---; ---; 13, 44, 61, 131, 226, 279, 307, 320, 364. In swiftly running stream of rain forest; freely biting man at all hours of the day, often biting under the cover of the open sheds: 175°	Bequaert	1930
<i>dentulosum</i> (Roubaud)	---; ---; 44°, 163	Bequaert	1930
<i>MELUSINA</i> <i>damosa</i> Austen	---; ---; 44	Bequaert	1913
<i>METOPHALUS</i> <i>caffer</i> Enderlein	---; ---; 322	Enderlein	1934
<i>NEVERMANNIA</i> <i>annulipes</i> (Becker)	---; ---; 63	Enderlein	1921

TABLE 1 - BLACK FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>NEVERMANNIA</i> <i>neireti</i> Roubaud	-- ; ---; 186	Enderlein	1921
<i>PSILOCNETHA</i> <i>scapulata</i> Enderlein	---; ---; 96	Enderlein	1934
<i>SIMULIUM</i> <i>adersi</i> Pomeroy	In river; ---; 13	Lewis	1956
	Streams, rivers, canals; ---; 13	Lewis	1948
	On vegetation in river, margins of rapids; ---, 14	de Araújo Abreu	1960
	In rivers; ---; 44	Fain	1951
	---; ---; 56, 163, 206, 214, 227, 230, 322, 361. Vegetation and stones in slow-to-fast moving water, tree roots; ---; 364°	Freeman & de Meillon	1953
	Dry savannah; ---; 61. Semi-arid regions; ---; 226	Grenier et al.	1961 (1962)
	In rivers; ---; 71	Taufflieb	1955
	Rivers, on grasses and stones in rapids; ---; 89. On grasses in torrents; ---; 112. ---; ---; 273	Grenier et al.	1955 (1956)
	---; ---; 102	Roubaud & Grenier	1943
	In rivers and tributaries; ---; 123, 226, 320, 324	Brown	1962
	Prefers quiet parts of streams although it may be found in fast flowing areas; common Dec.-Feb.; 123	Crisp	1956
	---; ---; 132	Tendeiro	1963
	Rocky rivers with fast current; ---; 226	Crosskey	1958
	In slow to fast running water with rocks and decayed vegetation; ---; 292	Meesei	1942
	On dragonfly nymphs in waterfalls; ---; 320	Corbet	1962a.
	Off rocky shores with intense wave action, attached to smooth roots lying in water; 320°. Grass blades in small streams; ---; 364	Gibbins	1937a.
	In the wash of waves on rocky shores; ---; 320, 322°. ---; ---; 364. (Bites only at sunrise and sunset)	Gibbins	1938
	Rivers; ---; 324	Lamontellerie	1963

TABLE 1 - BLACK FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>SIMULIUM</i>			
<i>adersi</i> var. <i>urundiensis</i> Fain	Streams on vegetation in slightly rapid current; ---; 361	Fain	1950
<i>afriocanum</i> Gibbins	Dashing mountain streams, small loose stones covered with vegetation below cascades and attached to leaves and stems; ---; 320	Gibbins	1937a.
	---; ---; 322	Gibbins	1938
<i>akanyaruensis</i> Fain	On vegetation in stream with relatively rapid current; ---; 361	Fain	1950
<i>albipartum</i> Roubaud & Grenier	Leaves; ---; 206	Roubaud & Grenier	1943
<i>albivirgatum</i> Wanson & Henrard	On vegetation in rivers; ---; 14	de Araújo Abreu	1961
	---; ---; 44°, 227°, 292. (Slow-moving rivers, clear, rapid, heavily shaded water)	Freeman & de Meillon	1953
	---; naturally infected with <i>Onchocerca</i> ; 44. ---; ---; 115. Streams with slow current in savannah; ---; 206°	Cvazza	1953
<i>alcocki</i> Pomeroy	Watercourses; ---; 13	Lewis	1953
	Rivers; houses; 44	Fain	1951
	In brooks with gravel beds, covered with aquatic plants, with moderate current; ---; 61	Grenier & Rageau	1949
	On grasses; ---; 89. Streams with feeble current; ---; 273	Grenier et al.	1955 (1956)
	Leaves in river; ---; 161, 206	Roubaud & Grenier	1943
	Slow and muddy streams, small or medium size rivers that are muddy or sandy; ---; 226	Crosskey	1957
<i>alcocki</i> <i>alcocki</i> Pomeroy	---; ---; 13, 123, 163. Vegetation in fast-to-slow flowing water; ---; 44, 61, 113, 214, 226, 230, 279. Vegetation in fast-to-slow flowing water; forest edge; 216	Freeman & de Meillon	1953
<i>alcocki</i> form <i>coalitum</i> Pomeroy	---; ---; 123	Freeman & de Meillon	1953
	Grass blades in slow-moving water; ---; 226	Pomeroy	1922
<i>alcocki</i> form <i>ijallense</i> Roubaud & Grenier	On margins of rapids; ---; 14	de Araújo Abreu	1960
	Leaves in streams; ---; 131	Freeman & de Meillon	1953

TABLE 1 - BLACK FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>SIMULIUM</i>			
<i>alcocki</i>	River; ---; 226	Davies	1963
form <i>djallonse</i>			
Roubaud & Grenier (cont.)	Streams; ---; 324	Lamontellerie	1963
<i>alcocki</i>	Dirty stones, grass stems in muddy water, flowing water contaminated with reddish slime; in houses; 13, 44, 163, 320	Freeman & de Meillon	1953
form <i>duodecimius</i> Gibbins	River; ---; 226	Davies	1963
<i>alcocki</i>	Rivers; ---; 13	Lewis	1948
var. <i>henrardi</i> Gibbins	Watercourses; ---; 13	Lewis	1953
	---; ---; 44	Freeman & de Meillon	1953
	In brooks with gravel beds, covered with aquatic plants, with moderate current; ---; 61	Grenier & Rageau	1949
<i>alcocki</i>	Vegetation in fast-to-slow flowing water; ---; 123, 226	Freeman & de Meillon	1953
form <i>occidentale</i> Freeman & de Meillon			
<i>alcocki</i>	Grass blades in slow-moving streams; ---; 226	Pomeroy	1922
var. <i>violaceum</i> Pomeroy			
<i>allaeri</i> Wanson	Shaded clear water with slow current, marsh edge with slight current, muddy river bottom; ---; 44	Freeman & de Meillon	1953
<i>altipartum</i> Roubaud & Grenier	Leaves in rapidly flowing rivers; ---; 175, 206	Roubaud & Grenier	1943
<i>ambositrae</i> Grenier & Grjébine	Rapid, clear water, torrents; ---; 186	Grenier & Grjébine	1958 (1959)
<i>aviasi</i> Séguy	---; ---; 211	Grenier	1953
<i>arnoldi</i> Gibbins	Large rapids; ---; 13	Lewis	1953
	---; ---; 292	Freeman & de Meillon	1953
	---; ---; 322	Gibbins	1938
	---; ---; 344	Gibbins	1937
<i>aureliani</i> Fain	In running water, on stones, rarely on vegetation; ---; 44	Freeman & de Meillon	1953

TABLE 1 - BLACK FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>SIMULIUM</i>			
<i>aureliani</i> Fain (cont.)	Submerged grasses of river banks in forest, on stones or vegetation in stream bed, rapid current; ---; 361	Fain	1950
<i>aureosimile</i> Pomeroy	Weed parts of streams; ---; 13	Lewis	1956
	---; ---; 44, 131, 163, 230, 319. (Fast moving, broken water)	Freeman & de Meillon	1953
	Mountain brooks on vegetation and stones, overflow of fish-culture ponds; ---; 61	Grenier et al.	1961 (1962)
	Streams with slow currents, brooks in forest galleries, thin streams of water, dead leaves in slow current of irrigation canals, water courses of forests and plains in high plateaus, usually in average- to rapid currents on stones of little falls; ---; 102	Grenier & Ovazza	1956
	In rivers or streams; ---; 226	Davies et al.	1962
	---; bites man mainly on legs, naturally infected with microfilariae of <i>Onchocerca volvulus</i> ; 226°	Duke	1962
	River, elevation 5,200-6,000 feet; ---; 320	Hynes & Williams	1962
<i>aureum</i> Fries	Only in flowing water; ---; 8	Parrot	1949
	Stones; ---; 8	Edwards	1923
<i>barnardi</i> Gibbins	---; ---, 322	Gibbins	1938
<i>beckeri</i> Roubaud	On water plants; ---; 8	Edwards	1923
	Only in flowing water; ---; 8	Parrot	1949
	---; Mar., Apr., May; 316	Séguy	1925a.
<i>bequaerti</i> Gibbins	---; ---; 44	Gibbins	1936
	Small stones in fast-moving water; ---; 163. Rocks under slow-moving water; ---; 322	Freeman & de Meillon	1953
<i>berghesi</i> Fain	Stones beneath, and tree roots dangling in cascade; ---; 44	Freeman & de Meillon	1953
	Rivers; ---; 44	Fain	1951
<i>berneri</i> Freeman	In river in black water with organic matter and moderate current, on larva of <i>Elassoneuria</i> ; ---; 61	Grenier & Mouchet	1958 (1959)
	On nymphs of mayfly <i>Elassoneuria</i> in river; ---; 123	Freeman	1954

TABLE 1 - BLACK FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>SIMULIUM</i>			
<i>bezzii</i> Corti	Only in flowing water; ---; 8	Parrot	1949
<i>bisnovem</i> Gibbins	Shady places in rivers; ---; 44	Fain	1951
	Tree roots and stones in cascade; ---; 320	Freeman & de Meillon	1953
<i>blacklocki</i> Edwards	---; ---; 279	Galliard	1931
<i>bovis</i> de Meillon	In streams rather than brooks; ---; 13. ---; ---; 56, 100, 214, 320. (Rocks in slow-moving water of river bed)	Freeman & de Meillon	1953
	Rapids of streams; ---; 13. ---; ---; 44. Attached to grasses on rocks of little falls; ---; 102. Attached to rocks in slow waters of streambeds; ---; 322	Grenier & Ovazza	1956
	On vegetation in rivers; ---; 14	de Araújo Abreu	1960
	On grasses in muddy water torrents with rapid current; ---; 89. Rivers with violent current; ---; 112. Rivers with slow current; ---; 322	Grenier et al.	1955 (1956)
	Flowing rivers; ---; 123	Marr & Lewis	1964
	Rocky rivers with fast current; ---; 226	Crosskey	1958
	Rivers with rocky beds, with rapids and falls, turbulent water, partially submerged trailing grass; June-Oct., most abundant July-Aug., bites man during day in open or in light shade, peak of activity in morning and late afternoon, naturally infected with filarial worms; 226°	Crosskey	1957
	---; ---; 227	Gibbins	1938
	Streams; ---; 230	Lewis	1961
	---; ---; 292°	Meeser	1942
	Streams; ---; 324	Lamontellerie	1963
<i>brashium</i> Gibbins	---; mango flowers, river edge; 206	Roubaud & Grenier	1943
	Swift-flowing streams, attached to stems, grass blades and roots; ---; 320	Gibbins	1937a.
<i>buckleyi</i> de Meillon	Marsh with slow-flowing water; ---; 44. On floating vegetation in lake with noticeable current; ---; 185	Freeman & de Meillon	1953
	Lakes, brooks; ---; 54	Grenier & Doucet	1949a.

TABLE 1 - BLACK FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>SIMULIUM</i>			
<i>buckleyi</i> de Meillon (cont.)	---; Aug.; 163 Attached on floating leaves in banks of lake with no noticeable current; ---; 186	de Meillon Grenier & Doucet	1944 1949
<i>buckleyi</i> form <i>fuscicornis</i> Pain	Lakes; ---; 361	Freeman & de Meillon	1953
<i>cautum</i> Gibbins	On stones and fine tree roots in small cascades, heavily-shaded rivers; ---; 320	Freeman & de Meillon	1953
<i>cervicornutum</i> Pomeroy	---; ---; 13, 44, 113, 214, 227, 322. (Swiftly flowing rivers and streams, in stones and weeds) On vegetation in flowing water; ---; 14 Streams with swift current, attached on leaves and on branches of trees; ---; 61 River source, mountain brooks; ---; 61 On leaves and branches of streams in forest gal- lery in savannah; tropical forest and large savannah; 102 Leaves in fast streams; ---; 131 ---; ---; 132 Streams, trailing leaves; ---; 175 Fast-to-slow rivers or streams, muddy or rocky; ---; 226 Rocky rivers with fast current; ---; 226 Small streams and rivers; ---; 279 Rivers and tributaries; ---; 279 Decayed vegetation in swift flowing water; ---; 292 Swiftly flowing stream attached to grass blades dipping in water, stones in river bed, heavy and light shade; ---; 320 River, elevation 3,950-4,400 feet; ---; 320 On grasses, in cascades with strong current and in rivers; ---; 324	Freeman & de Meillon de Araújo Abreu Grenier & Rageau Grenier et al. Grenier & Ovazza Roubaud & Grenier Tenacero Muirhead- Thomson Crosskey Crosskey Lewis Brown Meeser Gibbins Hynes & Williams Grenier et al.	1953 1961 (1962) 1956 1943 1963 1956 1957a. 1958 1956 1962 1942 1937a. 1962 1956 (1956)

TABLE 1 - BLACK FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>SIMULIUM</i>			
<i>cervicornutum</i> form <i>vangilsai</i> Wanson	On stones and weeds in swift rivers and streams; ---; 44	Freeman & de Meillon	1953
<i>colas-belcourti</i> Grenier & Ovazza	---; ---; 13. Stones in shady turbulent water; ---; 205 Mountain brooks, streams in savannahs; ---; 61	Freeman & de Meillon Grenier et al.	1953 1961 (1962)
	Swift and rocky streams: ---; 226	Crosskey	1957a.
<i>copleyi</i> Gibbins	In rivers, in phoratic association with mayfly nymphs of <i>Afronurus</i> , may also choose nymphs of <i>Baetis</i> ; ---; 163 River, elevation 4,200-6,000 feet; ---; 320	Freeman & de Meillon Hynes & Williams	1953 1962
	On nymphs of <i>Afronurus</i> (Ephemeroptera); ---; 364	Corbet	1962
<i>copleyi</i> <i>marlieri</i> Grenier	On nymphs of <i>Afronurus</i> (Ephemeroptera); ---; 44 320	Corbet	1962
<i>damnosum</i> Theobald	Rivers, narrow channels of seepage from dam; ---; 13. Rivers; ---; 279 Mud in relatively placid water, sedge; prefers wooded areas, strong flier, bites man during twilight, probable vector of onchocerciasis; 13° In running water, particularly rivers; biting between Oct.-Mar., generally restricted to riverine bush during dry season, bites from dawn until dusk; 13* Waterfalls, rapids, cascades, rocky gorges, cata- racts with well aerated rapidly flowing water, on mud, in relatively placid water; vector of oncho- cerciasis; 13*	Lewis Lewis Lewis Kirk et al.	1956 1948 1954 1959
	---; ---; 14°, 56, 89, 214, 227, 230. Fast and slow flowing water; ---; 44. ---; in high altitudes; 163°, 361. ---; beaches; 226, 322. On vegetation near river banks with vigorous waves due to turbu- lent falls, in caddis-fly tunnels; 320. Relatively quiet streams; ---; 322. On rocks in swift-flowing mountain streams; 364°. (Most common and widely distributed Ethiopian species, important African vector of human onchocerciasis, voracious biting species)	Freeman & de Meillon	1953
	On vegetation in river, in rapids; naturally in- fected with <i>Onchocerca volvulus</i> microfilariae; 14	de Araújo Abreu	1960

TABLE 1 - BLACK FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>SIMULI</i> *			
<i>damnosum</i>	---; suspected or capable of transmitting onchocerciasis; 14, 44, 61, 71, 106, 115, 175, 206, 230.	de Meillon	1957
Theobald (cont.)	---; ---; 361		
	In rivers, in large equatorial forest; peak Sept.; 44*	Fain	1951
	Rapidly flowing rivers; ---; 44, 89. (Bites lower portion of body)	Roubaud & Grenier	1943
	Rapids of river, attached to rocks, <i>Pennisetum</i> , floating masses of <i>Echinochloa</i> ; on vegetation on islands in rapids, on flowers of <i>Baphia</i> , transmits onchocerciasis; 44*	Brown	1962
	In large river on vegetation in savannah zone; ---; 61	Grenier & Mouchet	1958 (1959)
	---; ---; 61*, 71*, 89*, 123*, 163*, 175*, 226*, 230*, 279*, 320*, 364*	Geigy & Herbig	1955
	Dry savannah, waterfalls, streams, river basins; ---; 61°	Grenier et al.	1961 (1962)
	River, waterfall; ---; 61	Grenier & Rageau	1949
	In rivers with rapid current, in vegetation debris, against rocks in river; near rivers, Jan.-Mar.; 71*	Taufflieb	1955
	River, on stones in rapids; ---; 89. Rapids; 10 a.m. in full sunlight; 112°. ---; aggressive in full sunlight, Dec.; 156°. On grasses in cascade with strong current, attack in morning; Oct.; 324°. (Transmits human onchocerciasis)	Grenier et al.	1955 (1956)
	---; ---; 89. (Vector of onchocerciasis)	Quélennec	1962
	On stones and vegetation in streams or rapids, in fast or slow current; May, active 11-12 months, very aggressive in forest gallery, in tropical forest and large savannah, plateau, very aggressive in rainy season; 102°. Abundant in water courses; prefers wooded areas; 112. Edges of rivers; ---; 163. ---; ---; 322°, 361°	Grenier & Ovazza	1956
	Shady bush and grass near water; viciously bites man by day, naturally and experimentally infected with <i>Onchocerca volvulus</i> ; 111°, 123°, 279°, 320	Blacklock	1927
	---; rivers in savannah, rarely in forest; 115	Galliard	1933
	---; main vector of onchocerciasis; 123*	Wright	1957
	---; peak of activity in afternoon; 123	Lewis et al.	1961

TABLE 1 - BLACK FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>SIMULIUM</i> <i>damnosum</i> Theobald (cont.)	On stones, rocks, vegetation and twigs in fast-flowing streams; naturally infected with <i>Onchocerca volvulus</i> ; 123	Crisp	1956
	---; ---; 131. ---; bites man at all hours of the day, collected Aug.-Oct., under cover of open sheds; 175°. On aquatic plants in torrents; ---; 206. (Experimentally and naturally infected with microfilaria, <i>Onchocerca volvulus</i>). ---; ---; 307	Bequaert	1930
	---; naturally infected with microfilariae; 132*	Lecuona	1959
	---; ---; 132*	Tendeiro	1963
	Waterfalls of streams in sun; savannah or forest; 206*	Ovazza	1953
	In rivers; diurnal, bites primarily out of doors, in huts, present all year, peak May-June and Sept.; 226°	Crosskey	1955
	In rapids of river; mid June-mid Oct., caught at river and in woodland, naturally infected with <i>Onchocerca volvulus</i> ; 226*	Crosskey	1954
	On grasses or sedges on swift and rocky streams; ---; 226*	Crosskey	1957a.
	Rocky rivers with fast current, occasionally in tributaries; ---; 226	Crosskey	1958
	---; experimentally infected with <i>Onchocerca volvulus</i> ; 226	Duke	1962a.
	Streams; ---; 230	Lewis	1961
	---; ---; 279*	Neveu-Lemaire	1933
	Rocks in swift and well aerated waters; ---; 292	Meeser	1942
	---; ---; 320*	Barnley	1962
	---; ---; 320*	McMahon	1947
	Rapids or large swiftly flowing rivers, attached to long pendulous grasses dipping deeply into water, surface rocks; vicious human blood-sucker, carrier of <i>Onchocerca volvulus</i> ; 320°	Gibbins	1937a.
	On dragonfly nymph in waterfalls; ---; 320	Corbet	1962a.
	Streams; ---; 324	Lamontellerie	1963
	---; ---; 360	Zuretti	1957
	---; ---; 362	Gillet	1961

TABLE 1 - BLACK FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>SIMULIUM</i>			
<i>damnosum</i> Theobald (cont.)	Small rapids; ---; 364. (Vector of onchocerciasis organism)	Lewis	1960a.
	On water weeds at top of a waterfall, ---; 364	Jordan	1953
<i>debegene</i> de Meillon	Rocks under fast-rushing water; ---; 230, 292, 320, 322, 364	Freeman & de Meillon	1953
<i>debegene</i> form <i>empopomae</i> de Meillon	Rocks under fast-running water; ---; 322	Freeman & de Meillon	1953
<i>dentulosum</i> Roubaud	Above waterfalls; ---; 13	Lewis	1956
	Swift flowing waters; ---; 13, 61, 102, 163, 230, 292, 320, 322, 361. (Plant leaves and stems dipping into water, clean loose stones, rocks in stream beds)	Freeman & de Meillon	1953
	Water courses; annoying to man, but has not been caught biting; 13°. ---; ---; 100	Lewis	1953
	---; ---; 44°. Streams or torrents with rapid current in mountain regions; ---; 61, 320, 361. On grasses in swift flowing cascades; ---; 324	Grenier et al.	1955 (1956)
	In shade, in rapidly flowing water, ---; 44	Fain	1951
	Overflow of fish culture ponds, savannah brook; ---; 61	Grenier et al.	1961 (1962)
	Vegetation and stones in rapids which are not very violent, or waterfalls, streams, brooks, forest gallery, in savannah or in open, dead leaves of irrigation canals with slow current; ---; 102	Grenier & Ovazza	1956
	---; ---; 226	Crosskey	1957
	---; molest man without actually biting; 320°	Lewis	1957
<i>dentulosum</i> form <i>masabae</i> Gibbins	Swift flowing mountain streams, tree roots, stalks, and leaves in cascades and shallow water; ---; 320	Freeman & de Meillon	1953
<i>dentulosum</i> form <i>rhodesiense</i> de Meillon	---; ---; 292	Freeman & de Meillon	1953
<i>dentulosum</i> form <i>shoae</i> Grenier & Ovazza	Streams with slow current, waterfalls; ---; 102	Grenier & Ovazza	1956

TABLE 1 - BLACK FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>SIMULIUM</i>			
<i>diceros</i> Freeman & de Meillon	Phoretic association with mayflies; ---; 44	Freeman & de Meillon	1953
<i>divergens</i> Pomeroy	Grass blades in slow-moving water; ---; 226	Pomeroy	1922
<i>diversipes</i> Edwards	---; ---, 186, 279, 322	de Meillon	1930
<i>djallonense</i> Roubaud & Grenier	Leaves in rivers; ---; 131	Roubaud & Grenier	1943
	---; ---; 132	Tendeiro	1963
<i>duboisii</i> Fain	Mountain rivers; ---; 44	Fain	1951
	Rivers in forest, --- 361	Fain	1950
<i>duodecimem</i> Gibbins	Watercourses; ---; 13	Lewis	1953
	---; ---; 44	Gibbins	1936
	Slow flowing, lightly shaded streams, dirty stones in muddy river bed, stone and blades of grass dipping in water; ---; 320	Gibbins	1937a.
<i>edwardsi</i> Gibbins	Swift flowing streams, tree-roots and stones in cascades; ---; 320	Gibbins	1937a.
<i>egregium</i> Séguy	---; ---; 211	Grenier	1953
<i>elgonensis</i> Gibbins	Watercourses; ---; 13 ---; ---; 100	Lewis	1953
	Rivers; ---; 44	Fain	1951
	Stream; ---; 163	Garnham & McMahon	1947
	---; ---; 214	de Meillon	1943
	---; ---; 292	Meuser	1942
	Leaves and stems, swift flowing streams; ---; 320	Gibbins	1937a.
<i>emfulae</i> de Meillon	Rock under swiftly running water; ---; 322	de Meillon	1937
<i>empopomae</i> de Meillon	Rock under swiftly running water; ---; 322	de Meillon	1937
<i>equinum</i> Linnaeus	In flowing water, streams and seepages, magnesium- filled warm water or soft cold water; in houses; 8	Perrot	1949
	---; ---; 211. (On submerged plants in water, near fast-running stream, attack was on hot, steamy days)	Séguy	1925a.

TABLE 1 = BLACK FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>SIMULIUM</i>			
<i>mediterraneum</i> Puri	---; ---; 0, 211, 316	Grenier	1953
<i>flavipes</i> Austen	---; ---; 230	Austen	1921
<i>gariensis</i> de Meillon	---; ---; 322	de Meillon	1957
<i>gaudi</i> Grenier & Faure	Turbulent mountain torrent with stony bottom, water courses in Sahara; June, Jan.; 211	Grenier & Faure	1956 (1957)
<i>gilvipes</i> Pomeroy	---; ---; 226, 230, 320. (Quick-flowing mountain streams)	de Meillon	1930
<i>gracilipes</i> Edwards	---; active period Apr.-May; 8, 316	Séguy	1925
	---; Apr.-May; 211	Séguy	1925a.
<i>griseicollis</i> Becker	In running water, also in relatively slow running water, eggs are laid in or near running water, larvae attach themselves on various solid objects beneath water, often to sedge plants or to hard banks of mud; bites in daytime, present in Dec., peak Feb.-Mar., males visit flowers, annoyance mainly due to crawling; 13°	Lewis	1954
	Slowly moving and rapid waters; ---; 13	Lewis	1956
	In rivers on sedge, root, sticks, stones, hard mud in slow flowing water; rests on vegetation by day, bites during twilight; 13°	Lewis	1948
	In caddis-fly tunnels, in houses; 13. Rivers; ---; 44°. ---; ---; 96, 230	Freeman & de Meillon	1953
	In rivers; ---; 13	Grenier & Ovazza	1956
	Swift streams; bites during day, Jan.-Apr.; 13°	de Meillon	1930
	---; Nov.-May; 13	Garside & Darlingi	1951
	---; along streams, 89, 112. ---; mango flowers along streams; 206°. (Naturally infected with trypanosomes)	Roubaud & Grenier	1943
	Dry savannas, ---; 61	Grenier et al.	1961 (1962)
	Rivers with swift current, larvae and pupae attach on leaves and branches of trees; ---; 61	Grenier & Rageau	1949
	---; ---; 71	Taufflieb	1955

TABLE 1 - BLACK FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>SIMULIUM</i>			
<i>griseicolle</i>	Rivers and tributaries; ---; 123, 320, 324	Brown	1962
Becker (cont.)	---; ---; 279, 322. (Troublesome to man)	Gibbins	1938
	Swift flowing rivers, rocks and plants at water's edge; ---; 320	Gibbins	1937a.
	Streams; ---; 324	Lamontellerie	1963
<i>griseicolle</i> form <i>bifila</i> Freeman & de Meillon	Rivers; ---; 13	Freeman & de Meillon	1953
<i>griseicolle</i> form <i>griseicolle</i> Becker	Prefers rivers to streams; ---; 13	Crisp	1956
	Slow-to-swiftly flowing large rivers which are sandy, muddy or rocky; ---; 226	Crosskey	1957a.
<i>griseicolle</i> form <i>tridens</i> Freeman & de Meillon	Prefers rivers to streams, perennially flowing rivers; ---; 123	Crisp	1956
	Swift and rocky large rivers; ---, 226	Crosskey	1957a.
	Rivers; ---; 230	Freeman & de Meillon	1953
<i>griseicolle</i> form <i>trisphaerae</i> Wanson & Henrard	Branches dipping in river; ---; 44	Freeman & de Meillon	1953
<i>guimari</i> Becker	---; ---; 63	Smart	1945
<i>gyas</i> de Meillon	Rocks in cascade, torrents; ---; 186	Freeman & de Meillon	1953
<i>hargreavesi</i> Gibbins	---; ---; 132	Tendeiro	1963
	---; ---; 230	Gibbins	1937
	Reeds, leaves and rocks in sunlit waters of large, swift-moving river; ---; 320	Gibbins	1937a.
	On water weeds at the top of a waterfall; ---; 364	Jordan	1953
<i>harrisoni</i> Freeman & de Meillon	---; ---; 227, 322. (Papyrus in stream)	Freeman & de Meillon	1953
<i>hessei</i> Gibbins	---; ---; 322	Freeman & de Meillon	1953
<i>nightoni</i> Lewis	---; ---; 163, 320. (On crabs, females rarely bite man)	Lewis	1961a.

TABLE 1 - BLACK FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>STIMULIUM</i>			
<i>hirsutilateris</i> de Meillon	Rock under fast running water; ---; 322	Freeman & de Meillon	1953
<i>hirsutum</i> Pomeroy	Watercourses; ---; 13	Lewis	1953
	Rivers; ---; 44	Fain	1951
	---; ---; 61	Grenier & Itard	1962
	On vegetation in very violent rapids; ---; 102	Grenier & Ovazza	1956
	---; ---; 123	Gibbins	1938
	---; ---; 163, 214, 230, 279, 292, 322, 364. ---; forest canopy; 320. (Weeds and stones in slow-to-fast moving water)	Freeman & de Meillon	1953
	Swift and rocky streams; ---; 226	Crosskey	1957
	River, elevation 4,300-5,200 feet; ---; 320	Hynes & Williams	1962
	On fresh-water crab; ---; 320	de Meillon	1930
<i>hirsutum</i> var. <i>adarsi</i> Pomeroy	Leaves in rapidly flowing rivers; ---; 206	Roubaud & Grenier	1943
	Grass blades in small stream; ---; 364	Pomeroy	1922
<i>hirsutum</i> var. <i>dubium</i> Pomeroy	Grass blades in slow-moving water; ---; 364	Pomeroy	1922
<i>hirsutum</i> form <i>seriens</i> de Meillon	Rivers; ---; 44	Fain	1951
	Streams in forest galleries of savannahs, rivers in strong current in forest gallery of savannah; ---; 102	Grenier & Ovazza	1950
	---; Nov.; 163	de Meillon	1944
	Streams; ---; 230	Lewis	1961
	---; ---; 361	Freeman & de Meillon	1953
<i>hissetteum</i> Gibbins	---; ---; 44, 61, 163	Freeman & de Meillon	1953
<i>hissetteum</i> <i>nigrum</i> de Araújo Abreu	---; ---; 63	Smart	1945
<i>imerinae</i> Roubaud	On rocks in very fast-running water; fierce biter; 186°	Freeman & de Meillon	1953

TABLE 1 - BLACK FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>SIMULIUM</i>			
<i>imerinae</i> Roubaud (cont)	Brooks; ---; 186	Grenier & Doucet	1949a.
<i>impukane</i> de Meillon	Watercourses; ---; 13	Lewis	1953
	Small stones in fast flowing streams; ---; 44, 214, 322	Freeman & de Meillon	1953
	Clear brooks with less current; ---; 186, 230, 320	Grenier & Doucet	1949a.
	In rivers or streams; ---; 226	Davies et al.	1962
	Rivers and tributaries; ---; 324	Brown	1962
<i>iphias</i> de Meillon	Rocks in cascade; ---; 186	Freeman & de Meillon	1953
<i>intermedium</i> Roubaud	---; ---; 63	Smart	1945
<i>ituriense</i> Fain	---; ---; 44	Freeman & de Meillon	1953
<i>jadini</i> Fain	In streams on stones and vegetation in rapid current, not very shaded; ---; 361	Fain	1950
<i>jansi</i> de Araújo Abreu	On plants and rocks in rivers exposed to sun; ---; 14	de Araújo Abreu	1961
<i>johannae</i> Watson	In stream in large equatorial forest; ---; 44	Fain	1951
	Slow-flowing rivers only; ---; 44, 361. Vegetation in fast-running streams; ---; 61. ---; ---; 227. Leaves of <i>Dracaena</i> in swift-flowing stream; ---; 320	Freeman & de Meillon	1953
	---; ---; 89	Grenier et al.	1955 (1956)
	Little cascades of streams; ---; 102	Grenier & Ovazza	1956
	In river; ---; 226	Lewis	1960
	Small streams; ---; 279	Lewis	1956
	Rivers and tributaries; ---; 279	Brown	1962
<i>katanga</i> Fain	Rivers; ---; 44	Fain	1951
<i>kauntzeum</i> Gibbins	Clear, dark stone below cascade in partially shaded, swift-flowing river; ---; 44, 320	Freeman & de Meillon	1953
	Mountainous regions, at 10,200 feet, clean dark stones in rivers shaded by tall trees; ---; 320*	Gibbins	1939

TABLE 1 - BLACK FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>SIMULIUM</i>			
<i>kenyae</i> de Meillon	Water courses; ---; 13	Lewis	1953
	In river, ---; 44	Fain	1951
	Rapid waters of brooks with rocky bottom on <i>Crinum rotans</i> in water falls; Feb.-Mar.; 61	Grenier et al.	1961 (1962)
	---; ---; 163, 320. Foliage hanging in river; ---; 361	Freeman & de Meillon	1953
	Swift and rocky streams; ---; 226	Crosskey	1957
	Rivers and tributaries; ---; 226	Brown	1962
<i>latipes</i> Meigen	---; ---; 322	Brain	1929
<i>lepidum</i> de Meillon	In shade, in water with rapid current; ---; 8	Fain	1951
	---; ---; 13	Lewis	1948
	---; ---; 214	de Meillon	1943
	---; ---; 292	Meeser	1942
	On loose stones, elephant grass; ---; 320	Gibbins	1939
	Swift-flowing mountain rivers, rocks in falls, water with vegetation; ---; 320	Gibbins	1937a.
	---; ---; 322	Sautet	1936
	On water weeds at top of waterfall; ---; 364	Jordan	1953
<i>leucabum</i> de Meillon	Face of rocks in waterfalls; ---; 322	Freeman & de Meillon	1953
<i>limbatum</i> Enderlein	---; ---; 364	Enderlein	1921
<i>lineatum</i> Meigen	River beds with rapid current; bites in shady areas 316°	Chatton & Blanc	1917
<i>longolense</i> Roubaud & Grenier	Rapidly flowing rivers; ---; 44, 89, 131. ---; mango flowers; 206	Roubaud & Grenier	1943
<i>loutetense</i> Grenier & Ovazza	Mountain stream; ---; 13	Lewis	1953
	---; ---; 44, 123, 227. Stones and grass in rapid and turbulent water; ---; 206	Freeman & de Meillon	1953
	Brooks; ---; 61	Grenier et al.	1961 (1962)
	In fast stream; ---; 226	Lewis	1960

TABLE 1 - BLACK FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>SIMULIUM</i>			
<i>loutatense</i> Grenier & Ovazza (cont)	Pupae on leaves of sedge; ---; 279	Lewis	1956
	Rivers and tributaries; ---; 279	Brown	1962
<i>lumbwanus</i> de Meillon	On larvae of <i>Ephemera</i> ; ---; 163	Grenier & Mouchet	1958 (1959)
	---; May-Oct.; 163°	de Meillon	1944
	Associated with mayfly, <i>Afronurus</i> ; ---; 292, 361. (Females over waterfalls)	Freeman & de Meillon	1953
	River, elevation 3,950 and 4,400 feet; ---; 320	Hynes & Williams	1962
<i>magnebae</i> de Meillon	---; ---; 322	Sautet	1936
	Submerged grasses of river banks in forest; ---; 361	Fain	1950
<i>marlieri</i> Grenier	Water courses on larvae of <i>Ephemera</i> ; ---; 44	Grenier & Mouchet	1958 (1959)
<i>nasabae</i> Gibbins	Swift-flowing streams, tree roots, stalks and leaves in shallow water; ---; 320	Gibbins	1937a.
<i>nomahoni</i> de Meillon	Rivers; ---; 13	Lewis	1948
	Water courses; ---; 13	Lewis	1953
	Slow-moving water; ---; 43. ---; ---; 163, 206, 214, 320, 322. Sunny, slow-moving water; ---; 361	Freeman & de Meillon	1953
	In rivers; ---; 44	Fain	1951
	Streams in forest gallery of savannah, cascades, rivers, irrigation canal with slow current; ---; 102	Grenier & Ovazza	1956
	On grasses in torrent; ---; 112	Grenier et al.	1955 (1956)
	In rivers or streams; ---; 226	Davies et al.	1962
	Streams; ---; 230	Lewis	1961
<i>medusaeforme</i> Pomeroy	Streams, rivers; ---; 13	Lewis	1948
	On aquatic plants in rivers; ---; 14	de Araújo Abreu	1961
	---; ---; 44°	Schweta	1930
	Dry savannah, overflows of fish-culture ponds; ---; 61	Grenier et al.	1961 (1962)

TABLE 1 - BLACK FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>SIMULIUM</i>			
<i>medusaeforme</i> Pomeroy (cont.)	Swift-flowing mountain streams; ---; 61. Stones, leaves and stalks in heavily shaded swift-flowing water; ---; 163, 320. ---; ---; 214, 230, 361. Rocks in slow-to-swift water; ---; 322	Freeman & de Meillon	1953
	---; tropical forest and large savannah; 102	Grenier & Ovazza	1956
	Swift and rocky streams or small rivers; ---; 226	Crosskey	1957
	Rocks and decayed vegetation in slow-to-swift running water; ---; 292	Meeser	1942
	Water rushing over dam, stones in slow-moving water; ---; 322	de Meillon	1936
	On grasses in cascades with strong current; ---; 324	Grenier et al.	1955 (1956)
	Grasses in fast-flowing irrigation streams; ---; 364	Jordan	1953
<i>medusaeforme</i> <i>africanum</i> Gibbins	---; ---; 163. Leaves, stalks, roots, loose stones in swift flowing water; ---; 320	Freeman & de Meillon	1953
<i>medusaeforme</i> var. <i>angolensis</i> de Araújo Abreu	On vegetation and fixed objects on small water courses; ---; 14	de Araújo Abreu	1961
<i>medusaeforme</i> form <i>elgonense</i> Gibbins	---; ---; 13, 89, 324. Mountain and savannah brooks; ---; 61	Grenier et al.	1961 (1962)
<i>medusaeforme</i> form <i>hargreavesi</i> Gibbins	Streams, above waterfall; ---; 13. River; ---; 279	Lewis	1956
	Sluggish water; ---; 13. ---; ---; 163, 206, 214, 227, 230, 361. Leaves and stones in swift flowing water; ---; 320	Freeman & de Meillon	1953
	Flowing rivers exposed to sun; ---; 14	De Araújo Abreu	1960
	On grasses; ---; 89. On grasses in torrents; ---; 112. Lakes, on grasses in rivers and in cascades with a strong current; ---; 324	Grenier et al.	1955 (1956)
	Streams, brooks, vegetation on stones in very violent or slow rapids, thin streams of water; ---; 102	Grenier & Ovazza	1956
	Prefer moderately swift water; ---; 125	Crisp	1956
	Rivers and tributaries; ---; 123, 320	Brown	1962
	Rocky rivers with fast current; ---; 226	Crosskey	1958

TABLE 1 - BLACK FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>SIMULIUM</i>			
<i>medusaeforme</i>	River; ---; 279	Lewis	1956
form <i>hargreavesi</i>			
Gibbins	Water rushing over dam, stones in slow-moving water;	de Meillon	1936
(cont.)	---; 322		
<i>medusaeformis</i>	---; ---; 13	Lewis	1948
Pomeroy			
	---; ---; 44, 322. Rapidly flowing mountain streams;	koubaud & Grenier	1943
	---; 61		
	---; ---; 163, 206, 226, 279. (Quick-flowing mountain streams)	de Meillon	1930
	Mountainous regions, clean and dirty stones, leaves and stalks of a <i>Polygonum</i> dangling in the water, swiftly flowing and heavily shaded river: ---; 320°	Gibbins	1939
<i>merops</i>	---; swamps, attacks man avidly; 43°. Weeds in fast-flowing water; ---; 322	Freeman & de Meillon	1953
de Meillon			
<i>milloti</i>	Dead leaves in clear stream slowly flowing from caves, in permanent shade; ---; 186	Freeman & de Meillon	1953
Grenier & Doucet			
<i>monoceros</i>	Leaves; ---; 131	Roubaud & Grenier	1943
Roubaud & Grenier			
<i>narcosus</i>	Very fast-running clear water over stones; ---; 322	Freeman & de Meillon	1953
de Meillon			
<i>natalense</i>	---; ---; 322	Freeman & de Meillon	1953
de Meillon			
<i>naevai</i>	---; ---; 13*, 61*, 71*, 89*, 123*, 163*, 175*, 226*, 230*, 279*, 320*, 364*	Geigy & Herbig	1955
Roubaud			
	---; naturally infected with <i>Onchocerca volvulus</i> , bites freely on bright as well as on dull days but avoids brightest sunlight and midday hours; 44*	Browne	1960
	On river crabs <i>Potamonautes niloticus</i> , fast rivers and streams, wooded river banks, hilly or mountainous terrain; ---; 44*, 163*. On crabs; bites man in bright open sunlight all day on all parts of body; 320°	Freeman & de Meillon	1953
	On crabs <i>Potamonautes lirrangensis</i> , <i>P. stanleyensis</i> , <i>P. ballayi</i> , <i>P. langi</i> ; ---; 44. On carapaces of <i>Potamon chaperi</i> ; ---; 61. On crabs in streams; ---; 115, 206. On <i>Potamonautes niloticus</i> and <i>P. johnstonei</i> ; ---; 320	Brown	1962
	---; ---; 44*, 163*, 320*	Grenier & Mouchet	1958 (1959)

TABLE 1 - BLACK FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>SIMULIUM</i> <i>neavei</i> Roubaud (cont.)	On crabs <i>Potamonautes lueboensis</i> and <i>P. lirrangensis</i> ; ---; 44. <i>P. niloticus</i> ; ---; 163	de Meillon	1957
	---; ---; 163°. (Suspected carrier of <i>Simulium</i> disease)	de Meillon	1930
	On carapace and appendices, only <i>P. niloticus</i> in large rapid rivers with cascades and sunlit area; ---; 163	Grenier & Mouchet	1959
	---; very aggressive; 163	Grenier & Ovazza	1956
	---; near moving water with heavy vegetation; 163, 227°, 230°, 320, 322°, 364°	McMahon	1947
	---; ---; 227, 322. (Bites man)	Gibbins	1938
	Streams; ---; 230	Lewis	1961
	---; ---; 320, 364. (Small streams and tributaries)	McMahon	1951
	On crabs in streams, elevation 4,200-6,000 feet; ---; 320	Hynes & Williams	1962
	---; streams on forested slopes, vector of onchocerciasis; 320*	Barnley	1958
	On common local crab <i>Potamon lirrangensis</i> ; ---; 364. (Vector of onchocerciasis organism)	Lewis	1960a.
<i>neireti</i> Roubaud	---; ---; 54, 230	Neave	1912
	---; ---; 163	Anderson	1924
	---; forest-bordered streams, bites man avidly; 186°	Freeman & de Meillon	1953
	Rapid and limpid streams; fierce biter; 186°	Grenier & Doucet	1949a.
	---; May; 186	Grenier & Grjébine	1958 (1959)
<i>ngatogei</i> Fain	Stones forming stream bed in swift mountain torrent; ---; 361	Freeman & de Meillon	1953
<i>nigripes</i> Santos Abreu	---; ---; 63	Seart	1945
<i>nigrita sis</i> Coquillett	Water courses; ---; 13, 100	Lewis	1953
	On vegetation in rivers; ---; 14	de Araújo Abreu	1961
	Rivers; ---; 44	Fain	1951

TABLE 1 - BLACK FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>SIMULIUM</i>			
<i>nigritarsis</i> Coquillett (cont.)	---; ---; 61, 102, 113, 214, 320. Slow or fast running stream with organic matter; ---; 163, 322°	Freeman & de Meillon	1953
	---; ---; 131	Roubaud & Grenier	1943
	---; ---; 230	Gibbins	1937
	Rocks and decayed vegetation; ---; 292	Meeser	1942
	Grasses of river banks in forest; ---; 361	Fain	1950
	On rocks in fast-flowing streams; ---; 364	Jordan	1953
<i>nigritarsis</i> form <i>dubiei</i> Fain	---; ---; 361	Freeman & de Meillon	1953
<i>nili</i> Gibbins	Slimy rocks in rapid water, grass hanging in rapids; ---; 320	Freeman & de Meillon	1953
<i>nyasalandicum</i> de Meillon	On crabs, <i>Potamonautes niloticus</i> , all sorts of rivers, in open sunlight situations, in dense forests; ---; 163. ---; ---; 230, 364. On crabs; ---; 320	Freeman & de Meillon	1953
	---; rarely attacks man; 163°	Grenier & Mouchet	1958 (1959)
	On crabs, only on carapaces and appendices; ---; 163	Grenier & Mouchet	1959
	On crabs, in streams; seldom bites man; 230°	Lewis	1961
	---; ---; 364°	Grenier & Ovazza	1956
<i>obscurum</i> Gibbins	Stones of mountain stream, in dense forest, at dark; ---; 320	Gibbins	1937a.
<i>occidentale</i> Freeman & de Meillon	---; ---; 132	Tendeiro	1963
<i>octospicae</i> Gibbins	Dangling tree roots at waterfalls in well shaded rivers; ---; 320	Freeman & de Meillon	1953
<i>ornatum</i> Meigen	Only in flowing water; ---; 8	Parrot	1949
	Stones; ---; 8	Edwards	1923
	---; ---; 63, 211, 316. (Mar.-Nov.)	Séguy	1925a.
<i>ornatum</i> var. <i>nitidifrons</i> Edwards	On stones; ---; 8, 187	Edwards	1923

TABLE 1 - BLACK FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>SIMULIUM</i>			
<i>ovassae</i> Grenier & Mouchet	On crabs or in their bronchial orifices; ---; 61, 206	Lewis	1961a.
	On crabs, <i>Potamonautes chaperi</i> , on bronchial chamber or external carapace at base of claws, or on ocular peduncles in savannah zone in rocky part of river with rapids, crabs under stones; ---; 61	Grenier & Mouchet	1959
<i>palmeri</i> Pomeroy	Streams; ---; 61	Grenier & Rageau	1949
	---; ---; 226. (Quick flowing hill streams)	de Meillon	1930
	---; ---; 279	Gibbins	1938
<i>paulani</i> Grenier & Doucet	Rapid streams, larvae and pupae attach on stems of <i>Aponogeton fenestratis</i> ; ---; 186	Grenier & Doucet	1949a.
<i>phoroniformis</i> de Meillon	Blades of reeds under swiftly running water; ---; 292	Meeser	1942
	Rock under slow-moving water; ---; 322	de Meillon	1937
<i>pseudo-latipes</i> Santos Abreu	---; ---; 63	Smart	1945
<i>pseudomedusae-</i> <i>formis</i> de Meillon	---; ---; 292	Jack	1938
	---; ---; 322	de Meillon	1936
<i>pusillum</i> Fries	---; ---; 211	Grenier	1953
<i>renauti</i> Mansou & Lebied	---; ---; 44	Grenier & Mouchet	1958 (1959)
<i>reptans</i> Linnaeus	---; ---; 63, 316	Séguy	1930
<i>rhodensiense</i> de Meillon	---; ---; 292	de Meillon	1942
<i>rodhaini</i> Fain	On vegetation; river, margins of rapids; 14	de Araújo Abreu	1960
	Plants trailing from river bank; ---; 44. ---; forests; 361	Freeman & de Meillon	1953
	River; ---; 279	Lewis	1956
	Submerged grasses of river banks in forest; ---; 361	Fain	1950
<i>rotundum</i> Gibbins	Water course; ---; 13	Lewis	1953

TABLE 1 - BLACK FLIE (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>SIMULIUM</i>			
<i>rotundum</i> Gibbins (cont.)	In small rivers; ---; 44	Fain	1951
	---; ---; 214	de Meillon	1943
	Tree roots suspended in water; ---; 320	Gibbins	1937a.
<i>roubauii</i> Grenier & Rageau	Streams flowing rapidly enough, but obstructed by abundant grasses, larvae and pupae attach on grasses, leaves, and fallen branches along the currents; ---; 61	Grenier & Rageau	1949
<i>ruandae</i> de Meillon	In small mountain rivers, shaded, very rapid current; ---; 44	Fain	1951
	On stones and submerged vegetation of stream banks, rapid current, shaded; ---; 161	Fain	1950
<i>ruficornis</i> Macquart	---; ---; 8, 44, 56, 113, 211, 214, 227, 230, 279, 292, 320, 322. Commonest species in very slow waters, in very shallow waters and even in hoof prints; ---; 284. (Vegetation and stones in shallow slow streams and rivers, water highly charged with organic matter)	Freeman & de Meillon	1953
	Streams; ---; 13	Lewis	1948
	Dry savannah; ---; 61	Grenier et al.	1961 (1962)
	---; ---; 63	Grenier & Clastrier	1960
	---; ---; 100	Lewis	1953
	Streams, dead leaves in irrigation canals with slow current, thin stream of water, stream cascades; ---; 102	Grenier & Ovazza	1956
	On stones in torrents; ---; 112. On stones with imperceptible or very feeble current; ---; 273	Grenier et al.	1955 (1956)
	Rivers and tributaries; ---; 123, 324	Brown	1962
	---; ---; 172	Tendeiro	1963
	On floating leaves on bank of lake with no visible current; ---; 186	Grenier & Doucet	1949
	---; mango flowers, river edges; 206	Roubaud & Grenier	1943
	In rivers or streams; ---; 226	Davies et al.	1962
<i>rutherfordi</i> de Meillon	Small shaded stream; ---; 44. Swift mountain streams; ---; 292. Rocks and vegetation in slow running water; ---; 322	Freeman & de Meillon	1953

TABLE 1 - BLACK FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>SIMULIUM</i>			
<i>maenacriensis</i> Gibbins	---; ---; 44 Shaded, swift flowing mountain rivers, below cas- cades, loose stones tree roots; attacks man; 320°	Gibbins	1936 1937a.
<i>echoutei</i> Wanson	Vegetation in swift current; ---; 44. ---; ---; 123, 279 Rivers with swift current, larvae and pupae attach on leaves and branches of trees; ---; 44, 61 Slow and muddy streams, rocky and large rivers with swift currents; ---; 226	Freeman & de Meillon Grenier & Rageau Crosskey	1953 1949 1957a.
<i>schwetai</i> Wanson	---; ---; 44	Freeman & de Meillon	1953
<i>sergenti</i> Sergent	Only in flowing water, in streams and seepages, in warm, magnesium-filled or cold, soft water; ---; 8	Parrot	1949
<i>simplex</i> Gibbins	---; ---; 292 Plants and rocks in swift flowing water; ---; 320 ---; ---; 322	Meeser Gibbins Gibbins	1942 1937a. 1938
<i>speculiventre</i> Enderlein	---; ---; 275	Freeman & de Meillon	1953
<i>submorsitans</i> Séguy	---; Apr.; 63	Séguy	1921
<i>subornatum</i> Edwards	---; ---, 211	Séguy	1925a.
<i>tangae</i> Smart	---; ---; 54	Smart	1944
<i>taylori</i> Gibbins	Heavily shaded, clean stones below cascades in river; ---; 320	Freeman & de Meillon	1953
<i>taylori</i> form <i>sombaensis</i> Freeman & de Meillon	---; ---; 230	Freeman & de Meillon	1953
<i>tentaculum</i> Gibbins	---; ---; 13, 163, 230, 322. Stones with small holes below surface of swift-flowing water; ---; 320 In rivers, attaches to submerged grasses in average rapid current of 3 km./hr.; ---; 44 Little brook in forest, slow current; ---; 102	Freeman & de Meillon Fain Grenier & Ovarra	1953 1951 1956

TABLE 1 - BLACK FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>SIMULIUM</i>			
<i>disiphona</i> de Meillon	---; ---; 322	Langeron	1938
<i>touffeum</i> Gibbins	---; ---; 230	Gibbins	1938
	Stones of shaded river with organic matter; heavy shade; 320	Gibbins	1937a.
<i>tridens</i> Freeman & de Meillon	---; ---; 132	Tendeiro	1963
<i>turneri</i> Gibbins	---; ---; 322	Gibbins	1938
<i>ugandae</i> Gibbins	---; ---; 44	Gibbins	1936
	Stones, leaves, stalks in heavily shaded stream; ---; 320	Gibbins	1937a.
<i>unicornatum</i> Pomeroy	Rivers; ---; 13	Lewis	1948
	In rapids; ---; 14	de Araujo Abreu	1960
	Rivers; ---; 44	Fain	1951
	Rivers with swift current larvae and pupae attached on leaves and branches of trees; ---; 61	Grenier & Rageau	1949
	Running water; ---; 89, 206. Leaves in streams; ---; 131. Mountain streams; ---; 279, 320	Roubaud & Grenier	1943
	On grasses in torrents; ---; 89, 112. Stream with feeble current; ---; 273. On grasses in river; ---; 324	Grenier et al.	1955 (1956)
	Slowest parts of a stream; tropical forest and large savannah; 102	Grenier & Ovazza	1956
	---; ---; 113, 163, 214, 230, 322. (Slow-to-fast flowing rivers and streams, enters houses)	Freeman & de Meillon	1953
	Streams; ---; 123	Crisp	1956
	Rivers and tributaries; ---; 123, 226, 279, 324	Brown	1962
	---; ---; 132	Tendeiro	1963
	Streams, trailing leaves; ---; 175	Muirhead- Thomson	1956
	On vegetation in forest rivers of clear, rapid water, sandy bottom and rocks covered with green algae; ---; 206	Ovazza	1957
	Slow-to-fast flowing streams; ---; 226	Crosskey	1957a.

TABLE 1 - BLACK FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>SIMULIUM</i>			
<i>unicornutum</i>	Stream; ---; 279	Lewis	19
Pomeroy			
(cont.)	Leaves, stems, grass of shaded stream; ---; 320	Gibbins	1937a.
	---; ---; 364	Lewis	1960
<i>unicornutum</i>	---; ---; 279	Freeman &	
form <i>blacklooki</i>		de Meillon	1953
Edwards			
<i>unicornutum</i>	---; ---; 61	Freeman &	
form <i>palmeri</i>		de Meillon	1953
Pomeroy			
<i>unicornutum</i>	On flower stems in rapid current, on flower stems of	Freeman &	
form <i>pauliani</i>	<i>Aponogeton finestrals</i> ; ---; 186	de Meillon	1953
Grenier &			
Doucet			
<i>unicornutum</i>	---; ---; 13, 163, 214, 230. Weeds in swift-flowing	Freeman &	
form <i>roscudum</i>	water; ---; 320, 361. Slow-moving water; ---; 322	de Meillon	1953
Gibbins			
	On vegetation and small stones in rivers; ---; 14	de Araújo	
		Abreu	1961
<i>urundiensis</i>	Vegetation in flowing water; ---; 361	Freeman &	
Fain		de Meillon	1953
<i>vargasi</i>	Torrent; ---; 61	Grenier &	
Grenier &		Rageau	1949
Rageau			
<i>variegatum</i>	---; ---; 211	Séguy	1925a.
Meigen			
<i>velutiana</i>	---; ---; 63	Smart	1945
de Araújo			
Abreu			
<i>violaceum</i>	---; ---; 44	Gibbins	1936
Pomeroy			
	Stones in fast and flowing streams; ---; 320	Gibbins	1937a.
<i>vorax</i>	---; ---; 13, 163, 214, 227, 292, 322, 361, 364.	Freeman &	
Pomeroy	Rivers in high altitudes; ---; 44, 320. (Vegetation,	de Meillon	1953
	sticks and rocks in swift-flowing rivers, vertical		
	rock faces in waterfalls)		
	On vegetation and rocks in rapids; ---; 14	de Araújo	
		Abreu	1961
	Most rapid sections of rivers, especially under falls	Grenier &	
	and in turbulent and foaming waters, on rocks; ---;	Ovazza	1956
	102		
	Hollowed rocks in river; ---; 123	Marr &	
		Lewis	1964

TABLE 1 - BLACK FLIES (conclusion)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>SIMULIUM</i>			
<i>vorax</i>	Swift and rocky streams; ---; 226	Crosskey	1957a.
<i>Pomeroy</i> (cont.)	Streams; ---; 230	Lewis	1961
	On grasses in cascade with strong current; ---; 324	Grenier et al.	1955 (1956)
	---; voracious biter; 364°	de Meillon	1930
<i>vorax</i> form <i>ruandae</i> Fain	Vegetation in shady part of river; ---; 361	Freeman & de Meillon	1953
<i>vorax</i> form <i>touffeum</i> Gibbins	Rocks in rapids and shallow, fast-running streams; ---; 163. Below cascade in mountain streams, 'ones; ---; 320	Freeman & de Meillon	1953
<i>vulcani</i> Fain	Gently flowing marsh; ---; 361	Fain	1950
<i>vulcani</i> var. <i>fuscicornis</i> Fain	Gently flowing marshes: ---; 361	Fain	1950
<i>wellmanni</i> Roubaud	---; hilly country, plains, vicious; 14°. ---; ---; 227, 361. Rocks under waterfall; hilly country; 322	Freeman & de Meillon	1953
	---; ---; 61. ---; bites ferociously; 44, 227°. Streams; ---; 319	Grenier et al.	1961 (1962)
<i>woodi</i> de Meillon	Rivers; ---; 102	Grenier & Ovazza	1956
	On bronchial chamber of crab, <i>Potamonautes niloticus</i> ; ---; 163. ---; ---; 227°	Freeman & de Meillon	1953
	Streams which flow through cultivated land; ---; 230	Lewis	1961
	---; ---; 292°	Grenier & Mouchet	1959
	On carapace and orifice of bronchial chamber of a crab; ---; 320	Grenier & Mouchet	1958 (1959)
	On carapace of a crab; ---; 364°	Lewis	1961a.
<i>STILBOPLAX</i>			
<i>speculiventris</i> Enderlein	---; ---; 275	Enderlein	1921
<i>THYRSOPELMA</i>			
<i>capensis</i> Enderlein	---; ---, 322	Enderlein	1934

TABLE 2 - SUMMARY OF DISEASES OR DISEASE ORGANISMS TRANSMITTED BY BLACK FLIES

DISEASE OR DISEASE ORGANISM						
SPECIES	VIRUS & RICKETTSIA	PROTOZOA	HELMINTHS	OTHER		COUNTRY
<i>SIMULIUM</i> <i>damnosum</i> Theobald			Onchocerciasis or "River blind- ness"			13, 13 (Kirk et al., 1959), 44, 61, 71, 71, (Geigy & Herbig, 1955), 89, 123, 123 (Geigy & Herbig, 1955), 132, 163, 175, 206, 226, 226 (Geigy & Herbig, 1955), 230, 320, 320 (Geigy & Herbig, 1955), 364
			<i>Onchocerca</i> <i>volvulus</i>			44 (Fain, 1951), 132 (Tendeiro, 1963), 226 (Crosskey, 1954), 279, 320 (McMahon, 1947)
<i>neavei</i> Roubaud			Onchocerciasis			44, 163 (Freeman & de Meillon, 1953), 320 (Burnley, 1958)
			Human onchocer- ciasis			44 (Grenier & Mouchet, 1958 [1959]), 163 (Grenier & Mouchet, 1958 [1959]), 320 (Grenier & Mouchet, 1958 [1959])
			<i>Onchocerca</i> <i>volvulus</i>			13, 44 (Browne, 1960), 61, 71, 89, 123, 163, 175, 226, 230, 279, 320, 364

TABLE 3 - BLACK FLIES
(UNCONFIRMED ENTRIES)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>SIMULIUM</i>			
<i>damnosum</i> Theobald	---; wet sandy alluvial soil, edge of river, inundated rocky parts, seldom enters houses; 44	Wanson	1939
	---; Sept.-Jan.; 44	Wanson & Henrard	1945
	---; Jan.-Dec., peak Jan., most active on hot, bright days, shelter in vegetation during hottest hours; 320	Hargreaves	1925
<i>equinum</i> Linnaeus	Reeds; ---; 176	Zavattari	1930
<i>latipes</i> Meigen	Reeds; ---; 176	Zavattari	1930

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C. SAND FLIES

The sand fly entries include a few species of *Psychodinae* which do not bite but may be pests of man, often causing allergic reactions. Little is to be found in the literature on the biologies and disease transmissions of these species. Most of the data are distributional records.

The tables include 269 species or subspecies most of which are in the large genus *Phlebotomus*. No additional species are listed as unconfirmed.

TABLE 1 - SAND FLIES

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>BRUCHOMYIA</i> <i>edwardsi</i> Tonnoir	---; ---; 320	Tonnoir	1939
<i>BRUNETTIA</i> <i>albonotata</i> (Brunetti)	---; ---; 320	Tonnoir	1939
<i>gloriosa</i> Tonnoir	---; on foliage near a tree with a water-bearing cavity; 320	Tonnoir	1939
<i>grahami</i> Tonnoir	---; Nov.; 123	Tonnoir	1920
<i>indica</i> Eaton	---; May; 123. ---; on windows, Aug., Oct.; 226. ---; ---; 275. ---; on windows, Aug.; 279	Tonnoir	1920
<i>obscura</i> Tonnoir	---; ---; 320	Tonnoir	1939
<i>splendens</i> Tonnoir	---; ---; 44, 320 ---; May; 123	Tonnoir Tonnoir	1939 1920
<i>CLYTROCERUS</i> <i>africanus</i> Tonnoir	---; Oct.-Nov.; 226	Tonnoir	1920
<i>carbonarius</i> Tonnoir	---; ---; 320	Tonnoir	1939
<i>fasciatus</i> Tonnoir	---; ---; 320	Tonnoir	1939
<i>PHLEBOTOMUS</i> <i>adleri</i> Abonnenc	---; grotto, June; 112	Abonnenc	1960
<i>adleri</i> Theobald	---; rare species, almost always near water reservoirs, seldom in forest, never in villages and grasslands away from water and reservoirs, occasionally bites man; 13°. ---; ---; 61, 71, 100, 123, 226 ---; Aug.; 156. ---; ---; 206. ---; Feb., May, Sept., Oct.; 273. ---; Jan., June, July; 324 ---; termitaries; 163 ---; ---; 163° ---; June; 319	Quate Abonnenc & Larivière Minter Heisch et al. Le Gac & Abonnenc	1964 1959 1964 1956 1958
<i>affinis</i> Theobald	---; on or near rocky areas; 13	Lewis & Kirk	1951

TABLE 1 - SAND FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PHLEBOTOMUS</i>			
<i>affinis</i> Theobald (cont.)	---; ---; 61	Kirk & Lewis	1953
	---; between rocks, termitaries, huts and other buildings; 163	Heisch	1954
<i>affinis</i> <i>affinis</i> Theodor	---; ---; 54, 57, 163	Minter	1964
<i>affinis</i> var. <i>vorax</i>	---; ---; 13	Lewis & Kirk	1951
Parrot	---; ---; 54, 57, 163	Minter	1964
	---; Oct.; 89. ---; ---; 112	Abonnenc & Larivière	1959
	---; June; 319	Le Gac & Abonnenc	1958
<i>africana</i> <i>eremitis</i> Parrot & de Jolivière	---; ---; 13	Lewis & Kirk	1951
<i>africanus</i> Newstead	---; ---; 8, 44, 89, 100, 102, 123, 131, 163, 206, 211, 273, 279, 320, 322. ---; one of the most common spe- cies throughout the year, in all types of villages and grasslands, greatest density in forest, in houses; 13°	Quate	1964
	---; Dec.; 13	Parrot	1948
	---; Feb., Mar., May, June, peak Feb.; 13	Hoogstraal et al.	1962
	---; ---; 61	Rageau & Adam	1953
	---; ---; 71	Le Gac	1928
	---; ---; 112	Parrot	1949
	---; ---; 115	Galliard & Nitzul & cu	1931
	---; walls in rest houses; 123	Ingram	1910
	---; ---; 156	Parrot et al.	1945a.
	---; termitaries; 163	Minter	1964a.
	---; ---; 225	Parrot et al.	1945
	---; Sept.-Oct.; 226	Theodor	1933

TABLE 1 - SAND FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PHLEBOTOMUS</i>			
<i>africanus</i> var. <i>niger</i>	---; May-June; 102	Parrot	1936
<i>africanus</i> <i>meridionalis</i> Ristorcelli	---; ---; 211	Ristorcelli	1939a.
<i>africanus</i> var. <i>eremitis</i> Parrot & de Jolaniere	---; ---; 13	Lewis & Kirk	1951
<i>africanus</i> var. <i>longior</i> Parrot	---; collected April-June; 102	Parrot	1936
<i>africanus</i> var. <i>magnus</i> Sinton	---; ---; 13 ---; ---; 163	Dietlein Minter	1964 1964
<i>africanus</i> var. <i>meridionalis</i> de Meillon & Lavoipierre	---; ---; 320	de Meillon & Lavoipierre	1944
<i>africanus</i> var. <i>niger</i> Parrot & Schwetz	---; Dec.; 13 ---; ---; 44 ---; ---; 61	Parrot Theodor Rageau & Adam	1948 1938 1953
	---; ---; 89, 131, 156	Parrot et al.	1945a.
	---; ---; 112	Parrot	1949
	---; ---; 113	Kirk & Lewis	1946
	---; ---; 206	Le Gac & Abouneic	1958
	---; ---; 225, 273	Parrot et al.	1945
	---; ---; 226	de Meillon & Lavoipierre	1944
<i>africanus</i> var. <i>sudanensis</i> Theodor	---; ---; 13 ---; ---; 112, 225, 273 ---; ---; 113	Lewis & Kirk Parrot et al. Kirk & Lewis	1949 1945 1946
<i>alexandri</i> Sinton	---; enters houses, nocturnal, present from May, Aug.-Oct.; 3	Durand-Delacre	1948

TABLE 1 - SAND FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>Phlebotomus</i> at Sinton (cont.)	---; predominant in oases; 8°	Durand-Delacré & M. G.	1953
	---; Apr.; 13	Parrot	1948
	---; ---; 102, 163	Parrot & Clastrier	1960
<i>antennatus</i> Newstead	---; ---; 8, 44, 61, 71, 100, 102, 226, 284, 285, 320. Water reservoirs; common, non-seasonal species, present all year; 13	Quate	1964
	---; Aug.; 89. ---; Aug., Nov.; 112. ---; ---; 115. ---; Aug., Sept.; 156. ---; all year; 273. ---; Apr., Nov.; 307. ---; Apr., May, July, Aug., Sept.; 324	Abonnenc & Larivière	1959
	Latrines; in houses; 123	Larrousse	1921
	---; naturally infected with flagellates; 163	Minter	1963
	---; usually in houses; 163	Heisch et al.	1956
	---; tree holes, earth holes, between rocks, termi- naries, burrows, huts and buildings; 163	Heisch	1954
	---; ---; 319	Le Gac & Abonnenc	1958
<i>antennatus</i> var. <i>cinctus</i> Parrot & Martin	---; ---; 8, 44	Parrot & Clastrier	1960
	---; ---; 13, 285, 320	Quate	1964
	---; ---; 163	Heisch & Guggisberg	1953
<i>antennatus</i> var. <i>occiden- talis</i> Theodor	---; ---; 13	Lewis & Kirk	1954
	---; Mar., May, June; 319	Le Gac & Abonnenc	1958
<i>antennatus</i> var. <i>orientalis</i> Theodor	---; ---; 13, 123, 226	Quate	1964
<i>aretasi</i>	---; ---; 13	Lewis & Kirk	1949
<i>ariasi</i> Tonnoir	---; ---; 8	Clastrier	1956
<i>babu</i> Annandale	---; ---; 186	de Meillon & Lavoipierre	1943

TABLE 1 - SAND FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PHLEBOTOMUS</i> <i>balmicola</i> Abonnenc, Adam, et Baillly Choumara	---; caves; 61	Adam et al.	1960
<i>bedfordi</i> Newstead	---; rare although present all year, forest, water reservoirs, occasionally bites man; 13°. ---; ---; 44, 61, 100, 102, 123, 225, 226, 292, 320	Quate	1964
	---; ---; 71, 319. ---; June-Aug.; 89. ---; June; 131. ---; Aug., Oct.; 156. ---; Feb., Apr., July; 273. ---; Jan.-Aug.; 324	Abonnenc & Larivière	1959
	---; tree holes, earth holes, between rocks, termita- ries, burrows, huts, and other buildings; 163	Heisch	1954
	---; naturally infected with flagellates; 163	Minter	1963
	---; common house-frequenting species; infected with crithidia; 163	Heisch et al.	1956
	---; Apr. and Nov.; 307	Abonnenc & Le Gac	1958
	---; Mar. and June; 319	Le Gac & Abonnenc	1958
	Latrines; ---; 322	Larrousse	1921
<i>bedfordi</i> <i>bedfordi</i> Newstead	---; termite hills; 163	Minter	1964
<i>bedfordi</i> var. <i>bereiri</i> Kirk & Lewis	---; ---; 13	Lewis & Kirk	1954
<i>bedfordi</i> var. <i>congolensis</i> Bequaert & Walravens	---; ---; 13	Lewis & Kirk	1954
	---; ---; 44°	Heisch et al.	1956
	---; ---; 61, 100, 320	Kirk & Lewis	1953
	---; ---; 156, 214	Abonnenc & Larivière	1959
	In tree holes; widespread; 163	Minter	1964
	---; ---; 163°	Heisch & Guggisberg	1953
	---; ---; 322	de Meillon et al.	1957

TABLE 1 - SAND FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PHLEBOTOMUS</i>			
<i>bedfordi</i>	---; ---; 44, 206, 324	Abonnenc & Larivière	1959
var. <i>firmatus</i> Parrot & Malbrant	---; ---; 61	Kirk & Lewis	1953
<i>bedfordi</i>	---; ---; 61	Kirk & Lewis	1953
var. <i>medius</i>	---; ---; 320	Watson	1951
<i>bergeretti</i> Parrot	---; ---; 8	Parrot & Clastrier	1960
	---; ---; 13	Qutubuddin	1962
<i>blossi</i> Kirk & Lewis	---; ---; 163	Kirk & Lewis	1953
<i>burtoni</i> Theodor	---; Mar.; 13	Parrot	1948
	---; June-Aug.; 89. ---; Aug.; 112. ---; Oct.; 324	Abonnenc & Larivière	1959
	---; ---; 225. ---, present all year; 273	Parrot et al.	1945
<i>cafferatus</i> de Meillon & Lavoipierre	---; ---; 322	de Meillon & Lavoipierre	1944
<i>calcaratus</i> Parrot	---; on or near rocky hills; 13	Lewis & Kirk	1951
	---; ---; 100	Kirk & Lewis	1948
<i>celine</i> Minter	---; termittaries principal habitats, possibly acting as accessory vectors of kala-azar; 163	Minter	1964a.
	---; present all year, bites man avidly in evening, rarely in huts; 163*	Wijers & Minter	1962
	---; naturally infected with leptospirosis; 163	Minter	1963a.
	---; anthropophilic; 163	Minter	1962
<i>choumarai</i> Abonnenc	---; ---; 284	Minter	1963
<i>christophersi</i> Sinton	---; ---; 13	Lewis & Kirk	1954
<i>christophersi</i> var. <i>calcaratus</i> Parrot	---; ---, 13	Lewis & Kirk	1954
	---; ---; 100	Kirk & Lewis	1953
<i>cinctus</i> Parrot & Martin	---; Jan.-Apr.; 13	Parrot	1948
	---; ---; 285	Parrot & Martin	1944

TABLE 1 - SAND FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PHLEBOTOMUS</i> <i>clydei</i> Sinton	---; July-Oct., predominant in oasis; 8°	Durand- Delacre & Merin	1953
	---; June, July-Sept., nocturnal; 8	Durand- Delacre	1948
	---; widespread, dry season species, predominantly forest dweller, also numerous in villages and grasslands, rarely bites man; 13. ---; ---; 61, 71, 100, 102, 123, 284	Quate	1964
	---; bites viciously; 13°. ---; potential vector of leishmaniasis; 163	Heisch et al.	1956
	---; rarely enters houses, bites man day and night, indoors and outdoors; 13°	Kirk & Lewis	1947
	---; Feb.-June, peak May; 13°	Hoogstraal et al.	1962
	---; Apr.; 13	Parrot	1948
	---; ground holes; 71° ---; ground holes, houses; 163, 273. ---; houses; 324	Larivière et al.	1961 (1962)
	---; ---; 112	Parrot	1949
	---; ---; 113	Kirk & Lewis	1946
	---; burrows, wells, termite hills, enters huts, naturally and experimentally infected with "anterior" Leptomonads; 163	Heisch	1954
	---; ---; 163°	Heisch	1947
	---; July, 225. ---; all year; 273. ---; Nov.; 307. ---; Dec.-Jan.; 324	Abonnenc & Larivière	1959
	---; ---; 226	Parrot	1947
	---; present throughout year; 285	Parrot & Martin	1944
	---; Apr.; 307	Abonnenc & Le Gac	1958
<i>clydei</i> <i>clydei</i> Sinton	---; naturally infected with flagellates; 163	Minter	1953
	---; lowlands; 163	Minter	1965
	---; termite hills; 163	Minter	1964a.

TABLE 1 - SAND FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PHLEBOTOMUS</i>			
<i>clydei</i>	---; ---; 13	Minter	1964
<i>latiterna</i>			
Theodor			
<i>collarti</i>	---; ---; 13	Lewis & Kirk	1951
Adler,			
Theodor,	---; ---; 44	Galliard	1931
& Parrot			
	---; ---; 102	Martin	1939
	---; ---; 206	Parrot & Martin	1945
	---; ---; 320	Kirk & Lewis	1953
<i>congolensis</i>	---; ---; 13	Lewis & Kirk	1951
Bequaert &			
Walravens	---; ---; 44, 54, 102, 292, 322	de Meillon & Lavoipierre	1949
	---; ---; 71	Le Gac	1958
	---; ---; 163	McKinnon	1962a.
<i>congolensis</i>	---; Apr., Dec.; 13	Parrot	1948
var. <i>distinctus</i>			
Theodor	---; June; 13. ---; ---; 123	Theodor	1933
	---; ---; 71	Parrot	1949
	---; ---; 89, 131	Parrot et al.	1945a.
	---; ---; 112, 225, 273	Parrot et al.	1945
	---; ---; 113	Kirk & Lewis	1946
	---; ---; 163, 226	Theodor	1938
<i>congolensis</i>	---; ---; 206	Le Gac & Abonnenc	1958
var. <i>firmatus</i>			
Parrot & Malbrant			
<i>congolensis</i>	---; ---; 320	Kirk & Lewis	1950
var. <i>medins</i>			
Kirk & Lewis			
<i>oculandi</i>	---; ---; 13	Lewis & Kirk	1951
Lewis & Kirk			
<i>maculipes</i>	---; ---; 44	Kirk & Lewis	1948
Parrot & Wansan			

TABLE 1 - SAND FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PHLEBOTOMUS</i>			
<i>crypticola</i> Abonnenc, Adam, et Bailly- Choumara	---; grotto; 112	Abonnenc et al.	1959
<i>darlingi</i> Lewis & Kirk	---; ---; 13	Lewis & Kirk	1954
<i>decipiens</i> Theodor	---; Dec.; 13	Parrot	1948
	---; ---; 44	de Meillon & Lavoipierre	1943
	---; ---; 57, 163	Minter	1964
	---; Aug.; 156	Abonnenc & Larivière	1959
	---; Mar., June; 319	Le Gac & Abonnenc	1958
	---; ---; 320	Watson	1951
<i>dubius</i> Parrot, Mornet & Cadenat	---; ---; 13	Lewis & Kirk	1949
	---; ---; 61	Kirk & Lewis	1953
	---; Nov.; 112. ---; ---; 127, 131, 226. ---; Aug.; 156. ---; Feb.-Dec.; 273. ---; Aug., Dec.; 324	Abonnenc & Larivière	1959
	---; ---; 113	Kirk & Lewis	1946
	---; ---; 225	Parrot et al.	1945
<i>duboscqi</i> Neveu- Lemaire	---; ---; 13	Quate	1954
	---; ---; 61, 71	Abonnenc & Le Gac	1958
	---; ---; 89. ---; June; 225. ---; Nov.; 307. ---; Jan.-Oct.; 324	Abonnenc & Larivière	1959
	---; houses, bites man during day, June-Nov.; 112 ³ . ---; maximum: May; 201. ---; houses, suspected vector of oriental sore; 225. ---; ---; 273. ---; bites day and night; 319 ⁶ . ---; houses; 324. (all year, sus- pected vector of cutaneous leishmaniasis in West Africa)	Larivière et al.	1961 (1962)
	---; ---; 112, 123, 279	de Meillon & Lavoipierre	1944
	---; ---; 113	Kirk & Lewis	1946
	---; ---; 206	Le Gac & Abonnenc	1958

TABLE 1 - SAND FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PHLEBOTOMUS</i> <i>subosqi</i> Neveu- Lemaire (cont.)	---; ---; 225*. ---; in houses, suspected vector of cutaneous leishmaniasis; 226	Lewis & McMillan	1961
<i>laurenti</i> Parrot	---; ---; 13, 57. ---; 163 ---; ---; 44 ---; in houses at night; 117 ---; Oct.; 156. ---; ---; 206	Minter de Meillon & Lavoipierre Bertram et al.	1963 1947 1958
<i>edwini</i> Minter	---; ---; 163, 320	Abonnenc & Larivière	1959
<i>eremitis</i> Parrot & de Jolanière	---; ---; 8 ---; Feb.; 13	Minter Parrot & de Jolanière Parrot	1963 1945 1948
<i>fallax</i> Parrot	---; predominant in desert area; 8 ---; in houses, nocturnal, May-Oct.; 8 ---; ---; 132 ---; ---; 176 ---; ---; 316	Durand- Delacre & Memin Durand- Delacre de Azevedo et al. Parrot & Gras Parrot & Clastrier	1953 1948 1945 1946 1944
<i>freetownensis</i> Sinton	---; in huts in evening, Aug.; 117 ---; ---; 123, 163, 320 ---; ---; 279	Bertram et al. Kirk & Lewis Galliard	1958 1953 1931
<i>freetownensis</i> var. <i>ater</i> Parrot	---; May-June; 102. ---; Jan., Mar.; 273	Abonnenc & Larivière	1959
<i>freetownensis</i> var. <i>eremitis</i> Parrot & de Jolanière	---; Apr.-May, Aug., Sept.; 8. ---; June, Dec.; 89. ---; Jan.; 112. ---; Oct., Nov.; 307 ---; ---; 13 ---; June; 319	Abonnenc & Larivière Lewis & Kirk Le Gac & Abonnenc	1959 1954 1956

TABLE 1 - SAND FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PHLEBOTOMUS</i>			
<i>freetownensis</i>	---; ---; 13	Lewis & Kirk	1954
var. <i>magnus</i>			
Sinton	---; ---; 44, 115, 163, 226, 273. ---; Oct.-Nov.; 112, 324. ---; all year; 123. ---; June; 131. ---; Aug., Oct., Nov.; 156.	Abonnenc & Larivière	1959
	---; ---; 61	Kirk & Lewis	1953
	---; Nov.; 307	Abonnenc & Le Gac	1958
	---; May, June; 319	Le Gac & Abonnenc	1958
<i>freetownensis</i>	---; ---; 13	Lewis & Kirk	1954
var. <i>niger</i>			
Parrot & Schwetz	---; ---; 44, 206, 226. ---; June, Aug., Oct.; 89. Aug.; 112. ---; May; 131. ---; Oct.-Dec.; 156. ---; Jan.-Feb.; 273. ---; Apr., Nov.; 307. ---; Jan., May, July, Aug.; 319	Abonnenc & Larivière	1959
	---; ---; 61, 123, 320	Kirk & Lewis	1953
	---; Mar., May, June; 319	Le Gac & Abonnenc	1958
<i>freetownensis</i>	---; ---; 13	Lewis & Kirk	1954
var. <i>sudanicus</i>			
Theodor	---; ---; 61, 100, 163	Kirk & Lewis	1953
	---; Aug., Oct.; 112. ---; July-Aug.; 156. ---; all year; 273. Tree holes; July, Nov.; 324	Abonnenc & Larivière	1959
	---; July; 117	Bertram et al.	1958
	---; Mar., June; 319	Le Gac & Abonnenc	1958
<i>gambianus</i>	---; naturally infected with flagellates; 163	Minter	1963
Heisch	---; suspected vector of kala-azar; 163*	Wijers & Minter	1962
	---; appears three weeks after heavy rain; 163	Marr & Lewis	1964
	---; termite hills; 163. ---; ---; 364	Minter	1964
<i>ghequierei</i>	---; ---; 44	Gaillard	1931
Parrot			
<i>gigas</i>	---; caves; 44	Theodor	1948
Parrot & Schwetz	---; caves; 117	Adam et al.	1960
	---; grottos; 206	Adam	1961

TABLE 1 - SAND FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PHLEBOTOMUS</i>			
<i>g. silis</i> Kirk & Lewis	---; ---; 163	Kirk & Lewis	1953
<i>grangeri</i> Heisch, Guggisberg & Teesdale	---; tree holes, rock crevices, small rock caverns, bites man occasionally, naturally infected with flagellates; 163°	Minter	1963
	---; termitaries; 163	Minter	1964a.
<i>grenieri</i> Rageau	---; ---; 61	Kirk & Lewis	1952
<i>guggisbergi</i> Kirk & Lewis	---; enters houses; 54°	Minter	1964
	---; found in cave and tree trunks, lives in forests, tends to bite upper part of human ear; 163°	Lewis & Minter	1960
<i>guirandi</i> Kervran	---; ---; 13	Lewis & Kirk	1949
	---; ---; 112	Abonnenc & Larivière	1959
<i>harveyi</i> Heisch, Guggisberg & Teesdale	---; bites man between 6-8 a.m., Jan.; 163°	Heisch et al.	1956
	---; termitaries; 163	Minter	1964a.
<i>heischi</i> Kirk & Lewis	---; forest; 13°	Quate	1964
	---; ---; 163	Heisch & Guggisberg	1953
<i>herollandi</i> Abonnenc	---; in rock crevices, June; 112	Abonnenc	1960
<i>hirvus</i> Parrot & de Jolivière	---; ---; 8	Parrot & de Jolivière	1945
	---; ---; 13	Lewis & Kirk	1949
<i>horgani</i> Lewis & Kirk	---; ---; 13	Lewis & Kirk	1951
<i>huxti</i> Lewis & Kirk	---; ---; 13	Lewis & Kirk	1951
<i>inermis</i> Theodor	---; ---; 13, 226	Minter	1964
<i>ingrami</i> Newstead	---; ---; 13	Lewis & Kirk	1951
	---; ---; 44	Bequaert	1930
	---; ---; 57	Minter	1965
	Latrines; ---; 123	Larrouse	1921

TABLE 1 - SAND FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PHLEBOTOMUS</i>			
<i>ingrami</i>	---; Aug., Nov.; 156. ---; ---; 205. ---; Feb.; 273.	Abonnenc & Larivière	1959
Newstead (cont.)	---; Nov.; 307. ---; Sept.; 324		
	---; termitaries; 163	Minter	1964a.
	---; ---; 163	Heisch & Guggisberg	1953
	---; Mar., June; 319	Le Gac & Abonnenc	1958
	---; latrines, in laboratory; 320	Larrousse	1928
<i>katangensis</i>	---; suspected vector of kala-azar; 15	Theodor	1931
Bequaert & Walravens	---; ---; 44	Minter	1962
	---; ---; 344	Lewis & Kirk	1949
<i>kirki</i>	---; ---; 13	Lewis & Kirk	1951
Parrot	---; in huts and tree holes, occasionally bites man; 163*	Wijers & Minter	1962
	---; termitaries; 163	Minter	1964a.
<i>kitonyii</i>	---; shafts of termite hill; 163	Minter	1964
Minter	---; ---; 320	Minter	1963
<i>kostala</i>	---; ---; 163	Heisch	1947
Heisch			
<i>langeroni</i>	---; ---; 13	de Meillon & Lavcipierre	1944
Nitzulescu	---; ---; 176, 211	Parrot & Clastrier	1946
	---; ---; 316	Langeron	1931
<i>langeroni</i>	---; ---; 8, 211	Ristorcelli	1939a.
var. <i>longicuspis</i>	---; ---; 316	Nitzulescu	1930
Nitzulescu			
<i>langeroni</i>	---; readily bites man, suspected vector of kala-azar, numerous only in dry seasons, / .cia-Balanites forests	Quate	1964
var. <i>orientalis</i>	az main habitat; 13*		
Parrot	---; experimentally infected with kala-azar flagellates; 13	Qutubuddin	1962
	---; ---; 13*	Geigy & Herbig	1955
	---; collected May-June: 102	Parrot	1936

TABLE 1 - SAND FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PHLEBOTOMUS</i>			
<i>longeroni</i>	---; ---; 102°	Martin	1938
var. <i>orientalis</i>			
Parrot (cont.)	---; ---; 163°	Heisch	1947
<i>lesionae</i>	---; ---; 13	Quate	1964
Lewis & Kirk			
<i>lewisi</i>	---; ---; 8	Parrot & Clastrier	1960
Parrot			
	---; ---; 13	Lewis & Kirk	1951
	---; ---; 100	Kirk & Lewis	1953
<i>longicuspis</i>	---; ---; 61	Kirk & Lewis	1952
Nitzulescu			
	---; naturally infected with <i>Leishmania</i> , Apr.-Oct.; 8°.	Parrot & Donatien	1952
	---; ---; 211°		
	---; suspected vector of leishmaniasis; 8	Parrot	1936a.
	---; nocturnal, Aug.-Oct.; 8	Durand- Delacre	1948
	---; ---; 8*	Sergeant & Sergeant	1949
	---; ---; 8*, 316*	Geigy & Herbig	1955
	---; ---; 8*, 316*	Roman	1948
	---; ---; 316°	Roman	1947
<i>longipes</i>	---; June-Oct., naturally infected with <i>leptomonas</i> ; 8. (General vector of leishmaniasis in North Africa).	Parrot et al.	1941
Parrot & Martin			
	---; ---; 13	Qutubuddin	1962
	---; present throughout year, enters houses; 102°	Martin	1939
	---; in caves near lake shore; 163	Minter	1964
<i>lursdeni</i>	---; ---; 320	Kirk & Lewis	1950
Kirk & Lewis			
<i>martini</i>	---; ---; 13	Qutubuddin	1962
Parrot			
	---; collected May-June; 102	Parrot	1936
	---; ---; 102°	Martin	1938

TABLE 1 - SAND FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PHLEBOTOMUS</i>			
<i>marinus</i> Parrot (cont.)	---; termitaries are principal habitat, thought to be principal vector of kala-azar; 163	Minter	1964
	---; strongly anthrophile. bites man, naturally infected with leishmaniasis; 163 ^c	Minter	1963a.
	---; potential vector of <i>Leishmania</i> ; 163	McKinnon.	1962
	---; in houses, collected between Jan.-May; 163	Heisch et al.	1956
	---; present all year; 163	Wijers & Minter	1962
<i>matadensis</i> Theodor	-- --; 44	de Meillon & Lavoipierre	1943
<i>mathisi</i> Parrot	--- --; 273	Sautet	1936
<i>meilloni</i> Sinton	---; --; 163	Heisch & Cuggisberg	1953
	---; --; 292, 290	de Meillon & Lavoipierre	1944
	---; --; 322	Lewis & Kirk	1949
<i>meilloni</i> var. <i>subsectus</i> Sinton	---; --; 163	de Meillon & Lavoipierre	1944
<i>minutus</i> Rondani	---; bites man in hot season only; 8 ^a	Sergent et al.	1914
	---; rodent burrows in river banks; 8	Sergent & Parrot	1929
	---; ---; 13, 123	Theodor	1933
	---; ---; 65	Ristorcelli	1939 a.
	---; ---; 112, 279, 360	de Meillon & Lavoipierre	1944
	---; ---; 156, 273	Legendre	1927
	---; ---; 227, 230	Neave	1912
	---; ---; 316	Larrousse	1921
	---; ---; 322	Larrousse	1928
<i>minutus</i> var. <i>africanus</i> Newstead	---; ---; 8. (Suspected vector of "bouton d'Orient" i.e. oriental sore or cutaneous leishmaniasis)	Parrot	1922
	---; in latrines; 8	Parrot	1918
	---; ---; 8 ^a	Leveran	1915

TABLE 1 - SAND FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PHLEBOTOMUS</i>			
<i>minutus</i>	---; ---; 13, 156, 250, 322, 344	Larrousse	1921
var. <i>africanus</i>			
Newstead	---; July; 44	Tonnair	1920
(cont.)	---; ---; 89, 214, 364*	Larrousse	1928
	---; in houses and latrines; 123	Newstead	1920
	---; May-Oct.; 211	Leblanc	1925
	---; naturally infected with trypanosomiasis; 226	Taylor	1929
	---; ---; 227	Newstead	1912
	---; May-Nov.; 316	Chatton & Blanc	1918
<i>minutus</i>	---; ---; 44	Galliard & Nitzulescu	1931
var. <i>antennatus</i>			
Newstead	---; ---; 123, 226	de Meillon & Lavoipierre	1944
	---; ---; 156	Newstead	1913
<i>minutus</i>	---; ---; 8, 316	Larrousse	1921
var. <i>fallax</i>			
Parrot			
<i>minutus</i>	---; ---; 57	de Meillon & Lavoipierre	1944
var. <i>occidentalis</i>			
Theodor	---; ---; 123. ---; Sept.-Oct.; 226	Theodor	1933
<i>minutus</i>	---; nocturnal, Oct.; 8°	Durand-Deiacre	1948
var. <i>parroti</i>			
Adler & Theodor	---; predominant in desert areas; 9	Durand-Deiacre & Mémis	1951
	---; ---; 316	Roman	1948
<i>minutus</i>	---; Feb.; 8. ---; Apr.; 13	Theodor	1933
var. <i>signatipennis</i>			
Newstead	---; ---; 123	de Meillon & Lavoipierre	1944
<i>mirabilis</i>	---; cave; 44	Lewis & Kirk	1949
Parrot & Wanson	---; grotto; 206	Adam	1951
	---; ---; 320	Watson	1951
<i>morci</i>	---; rock crevices. Aug.; 156	Abonnenc & Larivière	1959
Abonnenc & Hamon			

TABLE 1 - SAND FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PHLEBOTOMUS</i>			
<i>multidens</i> Minter	---; bites man from 7-10 p.m. and from 12-1 a.m.; 163°	Heisch et al.	1956
	---; shafts of termite hills; 163	Minter	1964
<i>nairobiensis</i> Theodor	---; vicious biter; 163°	Sinton	1932
<i>notatus</i> Parrot	---; ---; 13	Lewis & Kirk	1949
	---; ---; 102	Parrot	1938
<i>occidentalis</i> Theodor	---; Feb.; 13. ---; ---; 156, 226	Parrot	1948
	---; ---; 123	Kirk & Lewis	1946
<i>orientalis</i> Parrot	---; Mar., Apr., peak May; 13°	Hoogstraal et al.	1962
	---; ---; 13	Heisch et al.	1956
	---; ---; 102	Minter	1964
	---; ---; 163	Heisch & Guggisberg	1953
<i>papatasi</i> Scopoli	Gardens; frequently in buildings inhabited by man or domestic animals, suspected vector of cutaneous leishmaniasis, experimentally transmits "bouton d'Orient"; 8	Parrot	1922
	---, feed on warm-blooded vertebrates, especially man; 8	Parrot	1927
	---; rodent burrows in river banks, domestic; 8	Sergeant & Parrot	1929
	---; naturally infected with and experimentally transmits <i>Leishmania tropica</i> ; 8	Sergeant & Sergeant	1949
	---; nocturnal, in houses, May-Oct.; 8	Durand- Delacre	1948
	---; July; 8°	Parrot & Durand- Delacre	1948
	---; predominant in oases; 8	Durand- Delacre & Ménin	1953
	Within or near villages; severe man biter, dry season species, grassland villages; 13**.	Quate	1964
	---; ---; 71, 100, 102, 284		
	---; experimentally shown to be inefficient vector of <i>Leishmania donovani</i> ; 13	Hoogstraal & Dietlein	1963

TABLE 1 - SAND FLIES (continued)

SPECIES	BRFEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PHLEBOTOMUS</i>			
<i>papatasi</i>	---; readily bites man indoors and outdoors; 13*	Kirk & Lewis	1947
Scopoli (cont.)	---; suspected vector of oriental sore; 13	Qutubuddin	1962
	---; ---; 13*	Lewis & Kirk	1954
	---; ---; 54	Newstead	1913
	---; ---; 65. ---; Aug.-Oct., peak in Aug., enters houses; 316	Ristorcelli	1939a.
	---; June-Nov. collected from apartment dwellings, naturally infected with phlebotomus fever virus; 96	Schmidt	1960
	Latrines and fresh clay; fresh mud huts; 112. ---; 123, 211	Larrousse	1921
	---; ---; 112*	Suldey	1927
	---; ---; 113	Kirk & Lewis	1946
	---; ---; 117	Legendre	1927
	---; ---; 176	Parrot & Gras	1946
	---; May-Oct.; 211	Lablanc	1925
	---; May-July; 316	Chatton & Blanc	1918
	---; in houses especially in Sept.; 316	Ristorcelli	1938
	---; ---; 316*	Roman	1947
	---; ---; 322*	Brain	1929
	---; ---; 360	Kirk & Lewis	1953
<i>papatasi</i>	---; ---; 5	Abbonnenc	1959
var. <i>bergeroti</i>	---; ---; 8*	Parrot	1935
Parrot	---; ---; 13	Lewis & Kirk	1951
	---; desert, bites at night; 71. (Suspected vector of cutaneous leishmaniasis)	Larivière et al.	1961 (1962)
	---; probable transmitter of three-day fever; 102*	Martin	1938
	---; collected in Apr.; 102	Parrot	1936
	---; ---; 285	Parrot & Martin	1944
	---; ---; 319	Le Gac & Abonnenc	1958

TABLE 1 - SAND FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PHLEBOTOMUS</i> <i>gustasi</i> var. <i>brevidentris</i> Ristorcelli	---; ---; 211	Ristorcelli	1939
<i>parroti</i> Adler & Theodor	---; ---; 8, 211, 316	Ristorcelli	1939a.
<i>pastorinus</i> Parrot, Mornet & Cadenat	---; May; 131. --; Aug.; 156	Abonnenc & Larivière	1959
<i>perfilliardi</i> Parrot	---; ---; 8, 316* ---; Sept.-Oct.; 316	Roman Parrot & Ciastrier	1947 1944
<i>perisiculus</i> Newstead	---; June-Sept., naturally infected with <i>Leptomonas</i> ; 8. (Vector of general leishmaniasis in North Africa.) ---; high places, littoral regions, feed on warm- blooded vertebrates, particularly man; 8 ---; naturally infected with <i>Leishmania</i> , May-Oct.; 8 ---; inhabits dark corners of habitations; 8 ---; in latrines; 8 ---; ---; 8*	Parrot et al. Parrot Parrot & Donatien Parrot Parrot Sergeant & Sergeant	1941 1927 1952 1922 1918 1949
	---; ---; 13, 102, 163 ---; ---; 211	Kirk & Lewis Parrot & Ciastrier	1946 1960
	---; probable vector of visceral leishmaniasis; 316 ---; enters houses, May, June, Aug.-Oct.; 316* ---; May-July; 316	Parrot Ristorcelli Gnatton & Blanc	1935 1939a. 1918
	---; ---; 316°	Roman	1947
<i>raptus</i> Parrot, Mornet & Cadenat	---; ---; 156	Parrot et al.	1945a.
<i>renardii</i> Parrot & Schwetz	---; ---; 44	de Meillon & Lavoipierre	1944

TABLE 1 - SAND FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PHLEBOTOMUS</i>			
<i>richardi</i>	---; ---; 44	Kirk & Lewis	1948
Parrot & Wanson	---; ---; 320	Kirk & Lewis	1953
<i>rodinai</i>	---; dry season forest species; 13	Quate	1984
Parrot	---; ---; 44	Parrot	1930
	---; ---; 57, 320	Minter	1964
	---; in termitaries; 163	Minter	1964a.
	---; ---; 226	Lewis & McMillan	1961
<i>rosarum</i>	---; bites man from 6-8 a.m. and from 6-8 p.m., May; 153°	Heisch et al.	1956
Heisch, Guggisberg & Teesdale	---; termitaries; 163	Minter	1964a.
<i>rossi</i>	---; ---; 292	de Meillon & Lavoipierre	1944
de Meillon & Lavoipierre			
<i>roubaudi</i>	---; ---; 13	Kirk & Lewis	1947
Newstead	---; ---; 61	Kirk & Lewis	1953
	---; ---; 112, 273	Parrot et al.	1945
	---; suspected vector of Oriental sore; 113	Parrot	1949
	---; ---; 113*	Geigy & Herbig	1955
	---; ---; 123, 226, 279	Kirk & Lewis	1946
	---; ---; 201	Newstead	1911
	---; ---; 225*	Parrot & Gougis	1944
<i>roubaudi</i>	---; ---; 13	Lewis & Kirk	1954
var. <i>fourtoni</i>			
Floch & Aboanenc			
<i>roubaudi</i>	---; ---; 112	Lefrou	1948
var. <i>papatasi</i>			
<i>ruttledgei</i>	---; ---; 13	Lewis & Kirk	1951
Lewis & Kirk			
<i>savneri</i>	---; ---; 44, 115	Galliard & Nitzulescu	1931
Galliard & Nitzulescu	---; collected Apr.-May; 102	Parrot	1936

TABLE 1 - SAND FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>Psiloparus schoutedeni</i> Adler, Theodor & Parrot	---; ---; 13	Kirk & Lewis	1947
	---; ---; 44	Gaillard	1931
	---; ---; 61. ---; July; 89. ---; Aug.; 156. ---; Nov.; 307	Abonnenc & Larivière	1950
	---; ---; 163	Kirk & Lewis	1953
	---; June; 319	Le Gac & Abonnenc	1958
	---; ---; 320	Theodor	1933
	---; ---; 322	de Meillon & Lavoipierre	1944
<i>schoutedeni</i> var. <i>pungens</i> Parrot	---; ---; 13	Lewis & Kirk	1951
	---; ---; 61	Rageau & Adam	1953
	---; ---; 320	Kirk & Lewis	1953
<i>schwetszi</i> Adler, Theodor & Parrot	---; ---; 8, 71, 100, 102, 123, 131, 226, 273, 320, 322. ---; maximum numbers during dry season, forest species although present in grasslands and villages, frequently bites man; 13*	Ouate	1964
	---; Apr.-July, peak in June-July; 13	Hoogstraal et al.	1962
	---; tree holes; 13	Kirk & Lewis	1947
	---; ---; 44*	Schwetz	1937
	---; ---; 61	Rageau & Adam	1953
	---; ---; 89, 206, 214. ---; Aug., Oct.; 112. ---; June; 131. ---; Oct.; 156. ---; all year; 272. ---; Apr.; 307. ---; June, Aug.; 324	Abonnenc & Larivière	1959
	---; ---; 111	de Meillon & Lavoipierre	1944
	---; ---; 113	Abonnenc	1959a.
	---; mounds of <i>Macrotermes bellicosus</i> principal habitat; 163	Minter	1964a.
	---; in huts and latrines, peaks about Nov.-Dec. and May-June; 163	Wijers & Minter	1962
	---; naturally infected with flagellates; 163	Minter	1963
	---; bites man inside huts; 163*	Heisch et al.	1953
	---; ---; 206. ---; Mar., May, June; 319	Le Gac & Abonnenc	1958

TABLE 1 - SAND FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PHLEBOTOMUS</i>			
<i>schwetszi</i>	---; ---; 225	Parrot et al.	1945
Adler, Theodor & Parrot (cont.)	---; Apr., Nov.; 307	Abonnenc & Le Gac	1958
<i>schwetszi</i>	---; ---; 13	de Meillon & Lavoipierre	1944
var. <i>athyrus</i> Parrot	---; collected Apr.-June; 102	Parrot	1936
<i>schwetszi</i> "atypicus"	--; ---; 13, 112, 131, 273, 319, 324	Abonnenc	1959a.
<i>schwetszi</i> var. <i>nigricans</i> Parrot	---; ---; 13	Lewis & Kirk	1951
<i>schwetszi</i> <i>saevus</i> Parrot & Martin	---; ---; 102	Archetti	1940
<i>schwetszi</i> <i>schwetszi</i> Adler, Theodor & Parrot	---; ---; 44, 112, 131, 273, 319	Abonnenc	1959a.
<i>sempleuria</i> Newstead	---; ---; 163	Heisch	1947
<i>sergenti</i> Parrot	---; naturally infected with cutaneous leishmaniasis; 8. ---; naturally infected with visceral leishmaniasis; 8, 316	Parrot	1935
	---; May-July, Oct., naturally infected with <i>Leishmania</i> ; 8	Parrot & Donatien	1952
	---; in houses, nocturnal, May-Oct.; 8	Durand- Delacre	1948
	---; inhabits dark corner of habitations; 8	Parrot	1922
	---; predominant in oases; 8°	Durand- Delacre & Mémis	1953
	---; July; 8°	Parrot & Durand- Delacre	1948
	---; ---; 13	Lewis & Kirk	1949
	---; ---; 65, 211	Ristorcelli	1939a.
	---; ---; 102	Kirk & Lewis	1946

TABLE 1 - SAND FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PHLEBOTOMUS</i>			
<i>sergenti</i> Parrot (cont.)	---; ---; 113	de Meillon & Lavoipierre	1944
<i>sergenti</i> var. <i>alexandri</i>	---; ---; 8	Clastrier	1936
<i>sergenti</i> var. <i>sergenti</i>	---; ---; 13	Qutubuddin	1962
<i>sergenti</i> var. <i>sergenti</i> Parrot & Martin	---; ---; 102	de Meillon & Lavoipierre	1944
	---; in territories; 163	Minter	1964a.
<i>serratus</i> Parrot & Malbrant	---; ---; 13	Lewis & Kirk	1951
	---; ---; 163	Heisch & Guggisberg	1952
	---; ---; 206	Le Gac & Abonnenc	1958
	---; ---; 320	Watson	1951
<i>signatipennis</i> Newstead	---; nocturnal, July-Sept.; 8	Durand- Deiacre	1948
	---; latrines, empty houses, tree clefts, holes in ground; 13	Kirk & Lewis	1947
	---; ---; 44, 102, 113, 115	Kirk & Lewis	1946
	---; ---; 71, 112	Parrot	1949
	---; ---; 89, 156	Parrot et al.	1945a.
	---; ---; 100	Kirk & Lewis	1948
	---; in latrines; 123	Newstead	1920
	---; ---; 132	de Azevedo et al.	1945
	---; ---; 225, 273	Parrot et al.	1945
	---; ---; 316	Parrot & Clastrier	1944
<i>simillimus</i> Newstead	---; Dec.; 13	Parrot	1948
	---; ---; 44, 57, 320. (Forest areas with high rain- fall.)	Minter	1964
	---; ---; 61	Rogean & Adam	1953

TABLE 1 - SAND FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PHLEBOTOMUS</i>			
<i>simillimus</i> Newstead (cont.)	---; May, June, Aug.; 89. ---; July, 123. ---; Aug.; 156. ---; rest houses; 123 ---; water closets; 123. ---; ---; 226 ---; Apr. and Nov.; 307 ---; Mar., May, June, 319	Abonnenc & Larivière Newstead Larrousse Abonnenc & Le Gac Le Gac & Abonnenc	1959 1920 1921 1958 1958
<i>simillimus</i> var. <i>hamoni</i> Abonnenc	---; ---; 13, 44, 319. ---; tree holes, July, Aug.; 324	Abonnenc & Larivière	1959
<i>simillimus</i> var. <i>inermis</i> Abonnenc	---; Aug.; 156	Abonnenc & Larivière	1959
<i>somaliensis</i> Abonnenc, Adam, et Bailey- Choumara	---; caves; 284	Adam et al.	1960
<i>squamplexuris</i> Newstead	---; ---; 8, 44, 100, 102, 163, 214, 226, 320. ---; numerous in moist habitats around water reservoirs, moderately abundant in forests, less numerous in villages, species mostly attracted to light; 13 ---; river banks; 13 ---; Feb.; 13 ---; ---; 56, 206. ---; in houses, Nov.; 89. ---; Aug., Nov.; 112, 156. ---; Feb.-Aug.; 273 ---; ---; 71 ---; ---; 113 ---; found indoors, attracted by artificial light; 163 ---; in territories; 163 Indoor mud nests of wasps; ---; 186 ---; treeholes; 186 ---; in hospital building; 186 ---; ---; 225 ---; ---; 285	Quate Lewis & Kirk Parrot Abonnenc & Larivière Parrot Kirk & Lewis Minter Minter Le Gac Grjebine Raynal & Le Gac Parrot et al. Parrot & Martin	1964 1951 1948 1959 1949 1946 1964 1964a. 1937 1954 1937 1945 1944

TABLE 1 - SAND FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PHLEBOTOMUS</i>			
<i>squamipleuris</i> Newstead (cont.)	---; Nov.; 307	Abonnenc & Le Gac	1958
	---; Nov. and June; 319	Le Gac & Abonnenc	1958
	---; ---; 322	de Meillon & Lavoipierre	1944
<i>squamipleuris</i> var. <i>dreyfussi</i> Parrot	---; nocturnal, May-Oct.; 8	Durand- Delacre	1948
	---; collected Apr.-June; 102	Parrot	1936
	---; ---; 163	Heisch et al.	1956
	---; ---; 211	Parrot & Clastrier	1960
<i>squamipleuris</i> var. <i>inermis</i> Theodor	---; ---; 4	Theodor	1948
	---; ---; 13	Lewis & Kirk	1951
	---; ---; 102, 226	de Meillon & Lavoipierre	1944
<i>squamipleuris</i> <i>squamipleuris</i> Newstead	---; ---; 163	Heisch et al.	1956
<i>suberectus</i> Sinton	---; ---; 13	Lewis & Kirk	1954
	---; ---; 163	Minter	1963
<i>subtilis</i> Parrot	---; ---; 13	Lewis & Kirk	1951
	---; ---; 100	Kirk & Lewis	1948
	---; Apr.-Dec.; 102	Parrot & Martin	1940
	---; dark, damp, sheltered places near cultivation, present throughout year; 285	Parrot & Martin	1944
<i>spinosi</i> Sinton	---; ---; 54	Galliard	1931
<i>taesdalei</i> Minter	---; ---; 163, 320	Minter	1963
<i>thomsoni</i> Theodor	---; ---; 13	Lewis & Kirk	1951
	---; ---; 230	Theodor	1938

TABLE 1 - SAND FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PHLEBOTOMUS</i>			
<i>tiberiadis</i> Adler & Theodor	---; ---; 8	Parrot & Clastrier	1960
	---; ---; 13	Lewis & Kirk	1954
	---; ---; 102	Martin	1938
<i>transvaalensis</i> Sinton	---; ---; 320	Tonnoir	1939
	---; ---; 322	Galliard	1934
<i>vagus</i> Parrot & Martin	---; ---; 102	de Meillon & Lavoipierre	1944
<i>consimilanae</i> Heisch	---; mounds of <i>Macrotermes bellicosus</i> principal habi- tat, possibly acting as accessory vector of kala-azar; 163	Minter	1964a.
	---; potential vector of <i>Leishmania</i> : 163	McKinnon	1962
	---; anthropophilic; 163	Minter	1962
	---; in houses; 163	Heisch et al.	1956
	---; ---; 163*	Minter	1963a.
<i>viator</i> Parrot & Martin	---; ---; 102	de Meillon & Lavoipierre	1944
<i>viduae</i> Parrot	---; ---; 13	Theodor	1948
	---; collected May-June; 102	Parrot	1936
	---; ---; 102*	Martin	1938
	---; ---; 320	Tonnoir	1939
<i>watsoni</i> Parrot	---; ---; 15	Lewis & Kirk	1949
	---; ---; 44	de Meillon & Lavoipierre	1944
	---; ---; 112	Parrot	1949
	---; ---; 113	Kirk & Lewis	1946
	---; ---; 225, 273	Parrot et al.	1945
	---; ---; 320	Kirk & Lewis	1953
<i>wurtzi</i> Parrot	---; ---; 102	Parrot	1938
<i>wynnae</i> Watson	---; ---; 320	Watson	1951

TABLE 1 - SAND FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PHLEBOTOMUS</i>			
<i>yustafi</i> Sinton	---; ---; 13	Lewis & Kirk	1951
	---; ---; 54	Galliard	1951
	---; ---; 163	Heisch & Guggisberg	1953
	---; ---; 320	Tonnoir	1939
<i>PSYCHODA</i>			
<i>acuta</i> Tonnoir	---; ---; 320	Tonnoir	1939
<i>albida</i> Tonnoir	---; ---; 320	Tonnoir	1939
<i>alternata</i> Say	---; May, July; 44. ---; ---; 63. ---; May; 123. ---; Feb.; 211. ---; May-June; 226. ---; ---; 322	Tonnoir	1920
<i>amphorica</i> Tonnoir	---; ---; 320	Tonnoir	1939
<i>bilobata</i> Tonnoir	---; ---; 320	Tonnoir	1939
<i>dentata</i> Tonnoir	---; under stones by river bed, in crater of mountain; 320	Tonnoir	1939
<i>dubitata</i> Tonnoir	---; ---; 163	Tonnoir	1939
<i>latipennis</i> Tonnoir	---; ---; 320	Tonnoir	1939
<i>modesta</i> Tonnoir	---; ---; 320	Tonnoir	1939
<i>plumosa</i> Tonnoir	---; ---; 320	Tonnoir	1939
<i>pseudonaxima</i> Tonnoir	---; ---; 320	Tonnoir	1939
<i>reducta</i> Tonnoir	---; ---; 320	Tonnoir	1939
<i>undulata</i> Tonnoir	---; ---; 320	Tonnoir	1939
<i>SERGENTOMYIA</i>			
<i>atieri</i> (Theodor)	---; ---; 13	Qutubuddin	1962
	---; ---; 226	Lewis & McMillan	1961

TABLE 1 - SAND FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>SERGENTOMYIA</i>			
<i>affinis</i> Theodor	---; ---; 13	Qutubuddin	1962
<i>affinis</i> <i>vorax</i> (Parrot)	---; ---; 13 ---; ---; 226	Qutubuddin Lewis & McMillan	1962 1961
<i>africana</i> (Newstead)	---; ---; 13	Qutubuddin	1962
<i>africana</i> <i>africana</i> (Newstead)	---; ---; 226 ---; ---; 279	Lewis & McMillan Lewis & Kirk	1961 1960
<i>africana</i> var. <i>atra</i> Parrot	---; ---; 102	Theodor	1948
<i>africana</i> var. <i>cherifiana</i> Ristochelli	---; ---; 211	Theodor	1948
<i>africana</i> var. <i>eremites</i> Parrot & de Jolinilère	---; ---; 4	Theodor	1948
<i>africana</i> var. <i>freetownensis</i> Sinton	---; ---; 279	Theodor	1948
<i>africana</i> var. <i>longior</i> Parrot	---; ---; 102	Theodor	1948
<i>africana</i> <i>magna</i> (Sinton)	---; ---; 13 ---; ---; 226	Qutubuddin Lewis & McMillan	1962 1961
	---; ---; 279	Lewis & Kirk	1960
<i>africana</i> var. <i>meridiana</i> de Meillon & Lavoipierre	---; ---; 322	Theodor	1948
<i>africana</i> var. <i>nigra</i> Parrot & Schwetz	---; ---; 4	Theodor	1948

TABLE 1 - SAND FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>SERGETOMYIA</i> <i>africana</i> var. <i>sudanica</i> Theodor	---; ---; 13, 57	Theodor	1948
<i>antennata</i> (Newstead)	---; ---; 13	Qutubuddin	1962
<i>antennata</i> <i>antennata</i> (Newstead)	---; ---; 226	Lewis & McMillan	1961
<i>babu</i> Annandale	---; ---; 186	Theodor	1948
<i>bedfordi</i> (Newstead)	---; ---; 13 ---; ---; 226*	Qutubuddin Lewis & McMillan	1962 1961
<i>buxtoni</i> (Theodor)	---; ---; 226	Lewis & McMillan	1961
<i>caffraria</i> de Meillon & Lavoipierre	---; ---; 322	Theodor	1948
<i>christopher</i> (Sinton)	---; ---; 13	Qutubuddin	1962
<i>christophersi</i> <i>calcaratus</i> (Parrot)	---; ---; 13	Qutubuddin	1962
<i>cineta</i> (Parrot & Martin)	---; ---; 13 ---; ---; 102	Qutubuddin Theodor	1962 1948
<i>clydei</i> <i>clydei</i> (Sinton)	---; ---; 226	Lewis & McMillan	1961
<i>clydei</i> <i>latiterna</i> (Theodor)	---; experimentally infected with kala-azar flagel- lates; 13 ---; ---; 226	Qutubuddin Lewis & McMillan	1962 1961
<i>collarti</i> (Adler, Theodor & Parrot)	---; ---; 13 ---; ---; 44	Qutubuddin Theodor	1962 1948
<i>congolensis</i> var. <i>distincta</i> Theodor	---; ---; 4	Theodor	1948

TABLE 1 - SAND FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>SERAGENTOMYIA</i> <i>congolensis</i> var. <i>firmata</i> Parrot & Malbrant	---; ---; 44	Theodor	1948
<i>coulandi</i> Lewis & Kirk	---; ---; 13	Theodor	1948
<i>crocarai</i> Parrot & Wanson	---; ---; 44	Theodor	1948
<i>deciptens</i> (Theodor)	---; ---; 13	Qutubuddin	1962
	---; ---; 44	Theodor	1948
<i>dubia</i> Parrot, Mornet & Cadenat	---; ---; 226	Lewis & McMillan	1961
<i>dureni</i> (Theodor)	---; ---; 13	Qutubuddin	1962
	---; ---; 226	Lewis & McMillan	1961
<i>fallax</i> Parrot	---; ---; 4	Theodor	1948
<i>graingeri</i> (Heisch, Guggisberg & Teesdale)	---; ---; 163	Lewis & Minter	1960
<i>hirta</i> Parrot & de Jolivière	---; ---; 4	Theodor	1948
<i>horgani</i> Lewis & Kirk	---; ---; 13	Theodor	1948
<i>huxti</i> Lewis & Kirk	---; ---; 13	Qutubuddin	1962
<i>inermis</i> (Theodor)	---; ---; 13, 226	Lewis & McMillan	1961
<i>ingrami</i> (Newsread)	---; ---; 13	Qutubuddin	1962
	---; ---; 226	Lewis & McMillan	1961
<i>mailloni</i> Sinton	---; ---; 322	Theodor	1948

TABLE 1 - SAND FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>SERGENTOMYIA</i> <i>mailloni</i> var. <i>suberecta</i> Sinton	---; ---; 54	Theodor	1948
<i>murphyi</i> Lewis & McMillan	---; ---; 117, 226, 279	Lewis & McMillan	1961
<i>notata</i> Parrot	---; ---; 102	Theodor	1948
<i>occidentalis</i> Theodor	---; ---; 54	Theodor	1948
<i>palestinensis</i> <i>levisi</i> (Parrot)	---; ---; 13	Qutubuddin	1962
<i>pastoriana</i> Parrot, Mornet & Cadenat	---; ---; 57	Theodor	1948
<i>renauxi</i> Parrot & Schwetz	---; ---; 44	Theodor	1948
<i>richardi</i> Parrot & Manson	---; ---; 44	Theodor	1948
<i>ruttledgei</i> (Lewis & Kirk)	---; ---; 13	Qutubuddin	1962
<i>sattii</i> Qutubuddin	---; ---; 13	Qutubuddin	1962
<i>schoutedeni</i> (Adler, Theodor & Parrot)	---; ---; 13 ---; ---; 226	Qutubuddin Lewis & McMillan	1962 1961
<i>schoutedeni</i> <i>pungens</i> (Parrot)	---; ---; 13	Qutubuddin	1962
<i>schwetai</i> (Adler, Theodor & Parrot)	---; ---; 13 ---; ---; 163	Qutubuddin Lewis & Minter	1962 1960
	---; ---; 226*	Lewis & McMillan	1961

TABLE 1 - SAND FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>SERGENTOMYIA</i>			
<i>schweizeri</i>	---; ---; 13	Qutubuddin	1962
<i>nigricans</i> (Parrot)			
<i>serrata</i>	---; ---; 13	Qutubuddin	1962
(Parrot & Malbrant)	---; ---; 163	Heisch & Guggisberg	1953
<i>signatipennis</i> Newstead	---; ---; 4	Theodor	1948
<i>simillima</i> (Newstead)	---; ---; 13	Qutubuddin	1962
	---; ---; 226	Lewis & McMillan	1961
<i>squamipleuris</i> (Newstead)	---; ---; 13, 226	Lewis & McMillan	1961
<i>squamipleuris</i> var. <i>dreyfussi</i> Parrot	---; ---; 102	Theodor	1948
<i>squamipleuris</i> <i>haseedi</i> Qutubuddin	---; ---; 13	Qutubuddin	1962
<i>suberectus</i> (Sinton)	---; ---; 13	Qutubuddin	1962
<i>tiberialis</i> (Adler, Theodor & Parrot)	---; ---; 13	Qutubuddin	1962
<i>viator</i> Parrot	---; ---; 102	Theodor	1948
<i>watsoni</i> Parrot	---; ---; 44, 57	Theodor	1948
<i>wartzi</i> Parrot	---; ---; 102	Theodor	1948
<i>yusafi</i> (Sinton)	---; ---; 13	Qutubuddin	1962
<i>yvonneae</i> Parrot & Schwartz	---; ---; 44	Theodor	1948
<i>SYCORAX</i>			
<i>africanus</i> Tonnoir	---; forests, lake shores, Aug.; 320	Tonnoir	1920

TABLE 1 - SAND FLIES (conclusion)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TELMATOSCOPIUS</i>			
<i>albipunctatus</i> (Williston)	---; ---; 320	Corbet	1963
<i>crassiasocidatus</i> Tonnoir	---; on <i>Lobelia elgonensis</i> ; 163	Tonnoir	1939
<i>edwardsi</i> Tonnoir	---; ---; 320	Tonnoir	1939
<i>flagellifer</i> Freeman	---; ---; 44	Freeman	1949
<i>fuscipennis</i> Tonnoir	---; ---; 279	Tonnoir	1920
<i>fuscus</i> Tonnoir	---; ---; 320	Tonnoir	1939
<i>meridionalis</i> Eaton	---; May, June; 8. ---; Apr., May; 14. ---; May, July, Aug.; 44. ---; Jan.; 63. ---; Oct.; 96. ---; May; 123. ---; Apr.; 163. ---; Nov.; 186. ---; ---; 214, 273, 364. ---; Apr., Aug., Sept., Oct., Nov.; 226. ---; Mar., May; 230	Tonnoir	1920
<i>pectinatus</i> Tonnoir	---; ---; 320	Tonnoir	1939
<i>TRICHOMYIA</i>			
<i>piricornis</i> Freeman	---; ---; 44	Freeman	1949

TABLE 2 - SUMMARY OF DISEASES OR DISEASE ORGANISMS TRANSMITTED BY SAND FLIES

SPECIES	DISEASE OR DISEASE ORGANISM					COUNTRY
	VIRUS &	PROTOZOA	HELMINTHS	OTHER		
	RIKETTTSIA					
<i>PHLEBOTOMUS</i>						
<i>subosqi</i> Neveu- Lemaire		Cutaneous leishmania- sis				225
<i>longeroni</i> var. <i>orientalis</i> Parrot		Leishmania donovani				13
<i>longicuspis</i> Nitzulescu		Kala-azar				8,316
		Visceral leishmania- sis				8 (Sergent & Sergent)
		Leishmania donovani				8,316 (Geigy & Herbig)
<i>minutus</i> var. <i>africanus</i> Newstead	Sand fly fever					364
<i>papatasi</i> Scopoli	Sand fly fever					13,322
		Leishmania donovani				13 (Hoogstraal & Dietlein)
		Cutaneous leishmania- sis				13 (Lewis & Kirk) 316 (Ristorcelli)
<i>papatasi</i> var. <i>bergeroti</i> Parrot		Cutaneous leishmania- sis				8
<i>perniciosus</i> Newstead		Kala-azar				316
		Visceral leishmania- sis				8
<i>roubaudi</i> Newstead		Leishmania tropica				113
		Oriental sore				225

TABLE 3 - SAND FLIES
(UNCONFIRMED ENTRIES)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PHLEBOTOMUS</i>			
<i>africanus</i> Newstead	---; ---; 14	Leite et al.	1947
	---; occasionally attacks man; 44°	Wanson	1942
	---; ---; 186	Loughnan	1929
<i>fallax</i> Parrot	---; ---; 211	Ristorcelli	1945
<i>minutus</i> var. <i>africanus</i> Newstead	---; enters houses; 316	Roubaud & Colas- Belcour	1927
<i>papatasi</i> Scopoli	---; Sept.-Nov., peak in Sept., enters houses during last hours of darkness; 96	Khalil Bey	1934
<i>squamiplexuris</i> Newstead	---; ---; 14	Leite et al.	1947
	---; Sept.-Nov., peak in Sept., active about 6 or 7 o'clock in the evening; 96	Khalil Bey	1934

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D. MIDGES

The midges include representatives from the family Ceratopogonidae. In some areas the biting species, especially *Culicoides*, are called "sand flies". Little is known of the biology of individual species; however, the larvae are known to occur either in water or in most terrestrial environments. Although quite important as pests, these biting midges are vectors for several disease organisms.

The tables include 177 species or subspecies, most of which are in the large genus *Culicoides*. No additional species are listed as unconfirmed.

TABLE 1 - MIDGES

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>ACANTHOCOROPS</i>			
<i>albiventris</i> de Meijere	---; ---; 364	Carter	1921
<i>spinoseifrons</i> Carter	---; ---; 364	Carter	1921
<i>CULICOIDES</i>			
<i>abdominalis</i> Santos Abreu	---; ---; 63	Vargas	1949
<i>aenatus</i> de Meillon	---; ---; 186	de Meillon	1947
<i>acraensis</i> Carter, In- gram & Macfie	---; ---; 44 ---; July; 117	Clastrier Clastrier & Wirth	1960 1961
	Rot holes in trees; ---; 123	Carter et al.	1920
	---; Dec.-May; 123	Ingram & Macfie	1922
	Rot holes in trees; ---; 322	de Meillon	1929
<i>adarsi</i> Ingram & Macfie	---; bites man in evening; 163° ---; ---; 364°	Lumsden Ingram & Macfie	1955 1923
<i>aegypti</i> Macfie	---; ---; 96, 322	Feijó Colaco	1946
<i>afriocanus</i> Clastrier	---; Feb.; 226	Clastrier & Wirth	1961
	---; ---; 273	Clastrier	1959
<i>albidigaster</i> Santos Abreu	---; ---; 63	Vargas	1949
<i>albopunctatus</i> Clastrier	---; ---; 44	Clastrier	1960
<i>alboscapus</i> Kieffer	---; ---; 102	Vargas	1949
<i>alexis</i> de Meillon	---; ---; 322	Lengeron	1938
<i>alticola</i> Kieffer	---; ---; 54 ---; ---; 364	Vargas Feijó Colaco	1949 1946

TABLE 1 - MIDGES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CULICOIDES</i>			
<i>analis</i> Santos Abreu	---; ---; 63	Vargas	1949
<i>arenarius</i> Edwards	---; ---; 284	Edwards	1922
<i>austeni</i> Carter, Ingram & Macfie	(Intermediate host of <i>Dipetalonema perstans</i> , whose larvae develop completely in this insect.)	Neveu-Lemaire	1933
	---; ---; 13. ---; bites at dusk; 44°	Feijó Colaco	1946
	---; Apr., May, Dec.; 44	Clastrier	1960
	---; ---; 44*. ---; naturally infected with <i>D. perstans</i> ; 61. ---; bites man mainly at night; 226*. Muddy pools, crab holes, water with <i>Pistia striatiotes</i> ; ---; 279	Bequaert	1930
	---; transmits <i>D. perstans</i> ; 57*	de Meillon	1936
	---; in houses, bites mostly at night; 115°	Huttel et al.	1953
	Fresh-water rice fields, decayed banana stems, rotten banana stumps mixed with earth; Jan., Feb., July, Oct.-Dec.; 117°	Clastrier & Wirth	1961
	---; bites man at night, Sept.; 117°. (Known vector of <i>D. perstans</i> .)	Bertram et al.	1958
	Water from a crab hole, muddy pools with <i>Pistia</i> <i>striatiotes</i> ; ---; 123	Ingram & Macfie	1921
	---; in the evening, indoors; Dec.-Apr.; 123	Carter et al.	1920
	Decaying banana fibre, pools with <i>Pistia</i> ; ---; 123	Macfie & Ingram	1923
	---; Jan., Nov.; 123	Ingram & Macfie	1922
	Rotting banana stems, mud in pools and puddles, water in crab holes, surfaces of water, weeds; ---; 226	Hopkins	1952
	Decaying banana stems; experimentally infected with <i>D. perstans</i> ; 226°	Nicholas & Kershaw	1954
	---; experimental transmission and possible vector of <i>D. perstans</i> ; 226°	Hopkins & Nicholas	1952
	---; transmits <i>D. perstans</i> ; 226*	McFadzean	1954
	---; rain forest; 226	Nicolas	1953
	---; ---; 267	Edwards	1934
	---; ---; 273	Clastrier	1958a.
	---; in bungalow; 364	Macfie	1926

TABLE 1 - MIDGES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CULICOIDES</i>			
<i>babrius</i> de Meillon	---; ---; 292	Vargas	1949
	---; evening, Jan.-Feb.; 322	Feijó Colacc	1946
	---; enters houses; 364	Macfie	1926
<i>bedfordi</i> Ingram & Macfie	Rot hole; ---; 226	Hopkins	1952
	Small pool; ---; 322	de Meillon	1929
	---; enters houses; 364	Macfie	1926
<i>bisignatus</i> Kieffer	---; ---; 61	Vargas	1949
<i>brucei</i> Austen	---; ---; 320, 322	Feijó Colaco	1946
<i>brunneus</i> Santos Abreu	---; ---; 63	Vargas	1949
<i>buambanus</i> de Meillon	Rotting banana and plantain stems, rot holes; ---; 226	Nicholas et al.	1955
	---; ---; 320	de Meillon	1952
<i>canariensis</i> Santos Abreu	---; ---; 63	Vargas	1949
<i>circumscriptus</i> Kieffer	---; ---; 96	Nagaty & Morsy	1962
	---; ---; 273	Clastrier	1958 a
	---; ---; 316	Tokunaga	1937
<i>citrinellus</i> Kieffer	---; ---; 8	Vargas	1949
<i>citrinus</i> Kieffer	---; ---; 61	Kieffer	1921
<i>citronus</i> Carter, Ingram & Macfie	---; Mar.-Apr.; Dec.; 44	Clastrier	1960
	---; Nov.-Apr.; 123	Ingram & Macfie	1922
	---; in the evenings, indoors, Dec.-Apr.; 123	Carter et al.	1920
	Rotting banana and plantain materials; ---; 226	Hopkins	1952
	---; ---; 267	Feijó Colaco	1946

TABLE 1 - MIDGES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CULICOIDES</i>			
<i>clarkei</i> Carter,	Rot holes in stumps and trees; - , 123	Carter et al.	1920
Ingram & Macfie	---; Nov.-Apr., Sept.; 123	Ingram & Macfie	1922
	Rot holes of silk cotton trees; in evening, in- doors, Dec.-Apr.; 123	Carter et al.	1920
	Rot holes of trees; Oct., Nov.; 117. ---; Feb.; 226	Clastrier & Wirth	1961
<i>coarctatus</i> Clastrier & Wirth	---; Feb.; 226	Clastrier & Wirth	1961
<i>confusus</i> Carter,	---; ---; 44	Feijó Colaco	1946
Ingram & Macfie	Rot holes in trees; ---; 123	Carter et al.	1920
	Wet mud at base of elephant grass; ---; 226	Nicholas et al.	1955
<i>congolensis</i> Clastrier	---; May; 44	Clastrier	1960
<i>conjunctus</i> Kieffer	---; ---; 123	Vargas	1949
<i>cordiformitarsis</i> Carter	---; Dec.; 96	Carter	1916
<i>cornatus</i> de Meillon	---; ---; 292	de Meillon	1943
	Muddy rain-water pool; bites in bright sunlight near breeding pools; ---; 322°	de Meillon	1937
<i>cornutus</i> de Meillon	---; ---; 322	Feijó Colaco	1946
<i>corsoni</i> Ingram & Macfie	---; indoors; 123	Ingram & Macfie	1921
<i>dasyops</i> Clastrier	---; ---; 273	Clastrier	1958 a.
<i>dekeyseri</i> Clastrier	---; Feb.-Apr.; Nov.; 117	Clastrier & Wirth	1961
	---; ---; 273	Clastrier	1958 a.
<i>dentatus</i> Kieffer	---; ---; 61	Vargas	1949
<i>dewulfii</i> Goetghebuer	---; ---; 44	Vargas	1949

TABLE 1 - MIDGES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CULICOIDES</i>			
<i>dispar</i> Clastrier	---; ---; 273	Clastrier	1959
<i>distigma</i> Kieffer	---; ---; 8, 211	Vargas	1949
<i>distincti- pennis</i> Austen	---; Apr.-May, Sept., Dec.; 44 ---; ites at dusk; 44° ---; ---; 96	Clastrier de Meillon Nagaty & Morsy	1960 1937 1962
	<i>Pistia striatiotes</i> , moist soil and mud; ---; 123	Ingram & Macfie	1921
	---; in the evening indoors, Dec.-Apr.; 123	Carter et al.	1920
	Pools with <i>Pistia</i> ; ---; 123	Macfie & Ingram	1923
	---; June-March, 123	Ingram & Macfie	1922
	Boggy ground, usually covered with vegetation; ---; 226	Hookins	1952
	---; Feb., May, July, Aug.; 117. ---; Jan , Feb., Oct.; 226	Clastrier & Wirth	1961
	---; ---; 267, 279, 322	Feijó Colaco	1946
	---; ---; 273	Clastrier	1958a.
	---; ---; 320	Vargas	1949
	---; enters houses; 364	Macfie	1926
<i>distincti- pennis</i> var. <i>egypti</i> Macfie	---; ---; 13 ---; ---; 96 ---; ---; 322	Macfie Macfie de Meillon	1947 1924 1943
<i>donatieni</i> Kieffer	---; ---; 8	Serjent et al.	1933
<i>donatieni</i> Kieffer	---; ---; 96	Kieffer	1924
<i>dutoiti</i> de Meillon	---; ---; 322	Vargas	1949
<i>egypti</i> Macfie	---; ---; 96 ---; ---; 322	Vargas Feijó Colaco	1949 1946

TABLE 1 - MIDGES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CULICOIDES</i>			
<i>engubandei</i> de Meillon	Rock pools; ---; 322	de Meillon	1937
<i>eriodendroni</i> Carter, Ingram & Macfie	---; Jun.-Nov.; 117 Rot holes in trees; ---; 123 Decaying banana fibre; ---; 123	Clastrier & Wirth Carter et al. Macfie & Ingram	1961 1920 1923
	---; in a tent; 279	Lewis	1956
<i>erythrogaster</i> Santos Abreu	---; ---; 63	Vargas	1949
<i>swimius</i> Santos Abreu	---; ---; 63	Vargas	1949
<i>expectator</i> Clastrier	---; Nov.; 117. ---; ---; 226.	Clastrier & Wirth	1961
<i>fenestralis</i> Santos Abreu	---; ---; 63	Vargas	1949
<i>flavimanus</i> Santos Abreu	---; ---; 63	Vargas	1949
<i>flaviventris</i> Santos Abreu	---; ---; 63	Vargas	1949
<i>foleyi</i> Kieffer	---; ---; 8	Vargas	1949
<i>fraterculus</i> Santos Abreu	---; ---; 63	Vargas	1949
<i>fulvithorax</i> (Austen)	---; ---; 13 ---; Apr.-May, Dec.; 44. ---; ---; 206 ---; ---; 54, 61 Rotten banana stem; July, Oct.; 117 ---; indoors; 123 ---; evening, in houses; 123 ---; Sept.; 156 Wet mud at base of elephant grass, rotting banana and plantain stems; ---; 226 ---; rain forest zone; 226°	Macfie Clastrier Vargas Clastrier & Wirth Ingram & Macfie Carter et al. Clastrier Nicholas et al. Nicholas et al.	1947 1960 1949 1961 1924 1920 1959 1955 1953

TABLE 1 - MIDGES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CULICOIDES</i>			
<i>fuscicaudae</i> Macfie	---; ---; 13	Macfie	1947
<i>gambiae</i> Clastrier & Wirth	---; Feb.; 117	Clastrier & Wirth	1961
<i>glabripennis</i> Goetghebuer	---; ---; 44	Vargas	1949
<i>grahami</i> Austen	---; ---; 13	Lewis	1958
	---; ---; 14, 267, 320°. ---; naturally infected with <i>Dipetalonema perstans</i> ; 226	Feijo Colaco	1946
	---; Mar.-May, Dec.; 44	Clastrier	1960
	---; abundant in forests, bites day and night, mostly in early morning and at dusk; 44°. ---; ---; 175°. ---; development of embryos of <i>D.</i> <i>perstans</i> during 3 days, suspected vector of this worm; 226. Decaying matter in banana stumps; ---; 279. ---; ---; 320	Bequaert	1930
	---; transmits <i>D. streptocerca</i> ; 44*	Chardome & Peel	1949
	---; Apr.; 44. ---; 117	Clastrier & Wirth	1961
	---; transmits <i>D. perstans</i> ; 57*	de Meillon	1936
	---; suspected vector of <i>D. perstans</i> ; 61	Kershaw	1950
	---; ---; 106, 226, 254,	Vargas	1949
	---; found in forest villages, June and Sept., bites man at sunset; 115°	Galliard	1933
	---; in houses in the evening, Sept.; 117°. (Known vector of <i>D. perstans</i> .)	Bertram et al.	1958
	Decaying banana fibre; ---; 123	Macfie & Ingram	1923
	---; in buildings; 123	Ingram	1919
	---; in the evening, Dec.-Apr.; 123	Carter et al.	1920
	---; Nov.-May; 123	Ingram & Macfie	1922
	---; ---; 123°	Ingram & Macfie	1924
	Rotting banana and plantain stems; suspected vec- tor of <i>D. perstans</i> ; 226	Hopkins	1952

TABLE 1 - MIDGES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CULICOIDES</i>			
<i>grahami</i> Austen (cont.)	Rotting banana stems; experimentally infected with <i>D. perstans</i> ; 226*	Nicholas & Kershaw	1954
	---; experimentally infected with <i>D.</i> <i>streptocerca</i> ; 226	Duke	1954
	---; possibly a poor vector of <i>D. perstans</i> ; 226	Hopkins & Nicholas	1952
	Wet mud at base of elephant grass; ---; 226	Nicholas et al.	1955
	---; naturally infected with <i>D. perstans</i> , com- plete development of this nematode; 226	Neveu- Lemaire	1933
	---; active daytime, peak of activity 8-10 AM, 4 PM to sunset, pest; 320*	Neave	1912
<i>griseidorsum</i> Kieffer	---; ---; 316	Vargas	1949
<i>guineensis</i> Kieffer	---; ---; 131	Feijo Colaco	1946
<i>gulbenkiani</i> Caeiro	---; Mar.-Apr.; 322	Caeiro	1959
<i>gutifer</i> de Meijere	---; ---; 275	Vargas	1949
<i>halophilus</i> Kieffer	---; ---; 96	Vargas	1949
<i>hiemalis</i> Santos Abreu	---; ---; 63	Vargas	1949
<i>hiemalis</i> var. <i>in-</i> <i>maculatus</i> Santos Abreu	---; ---; 63	Vargas	1949
<i>hirtius</i> de Meillon	---; Feb.; 226	Clastrier & Wirth	1961
	---; evening, Jan.-Feb.; 322	Feijo Colaco	1946
<i>hirtius</i> var. <i>mag-</i> <i>nus</i> Feijo Colaco	---; evening, Dec.-Feb.; 322	Feijo Colaco	1946
<i>nostilissi-</i> <i>nus</i> Pittaluga	---; ---; 106	Gil Collado	1931

TABLE 1 - MJDGES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CULICOIDES</i>	---		
<i>hysipyles</i> de Meillon	---; ---; 322	Langeron	1938
<i>imperfectus</i> Goetghebuer	---; ---; 44	Vargas	1949
<i>inornati-</i> <i>pennis</i>	---; ---; 13	Lewis	1958
Carter,	---; Mar., Apr., Dec.; 44	Clastrier	1960
Ingram & Macfie	---; bites man between 5:30 and 6 PM; 44°	de Meillon	1937
	Rot holes, rotten wood; Mar., Apr., June, Aug., Oct.; 117°. ---; tree holes, Feb., July, Sept., Oct., Dec.; 226°	Clastrier & Wirth	1961
	Rot hole in tree-stump, decaying banana plants; ---; 123	Carter et al.	1920
	---; ---; 123°, 284, 292	Feijo Colaco	1946
	Rot holes; ---; 226	Hopkins	1952
	Rotting banana and plantain stems; ---; 226	Nicholas et al.	1955
<i>inornati-</i> <i>pennis</i>	---; ---; 57	Vargas	1949
var. <i>rut-</i> <i>lus</i>	Banana stumps; ---; 123	Ingram & Macfie	1921
Carter, Ingram & Macfie	Rot holes; ---; 123	Macfie & Ingram	1923
<i>intermedius</i> Santos Abreu	---; ---; 63	Vargas	1949
	---; ---; 273	Clastrier	1959
<i>jouberti</i> Huttel, Huttel & Verdier	---; Sept.; 115*	Huttel et al.	1953
<i>kabyliensis</i> Kieffer	---; ---; 8	Vargas	1949
<i>kibatiensis</i> Goetghebuer	---; ---; 44	Vargas	1949
<i>kingi</i> Austen	---; ---; 13, 96, 284	Feijo Colaco	1946
<i>kivuensis</i> Goetghebuer	---; ---; 44	Vargas	1949
<i>krameri</i> Clastrier	---; Apr.; 44. Streams; ---; 71°. ---; ---; 117. ---; indoors, July, Oct.; 226°	Clastrier & Wirth	1961
	---; ---; 112, 273. ---; Sept.; 156	Clastrier	1959

TABLE 1 - MIDGES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CULICOIDES</i>			
<i>kribbiensis</i> Kieffer	---; ---; 61	Vargas	1949
<i>lanbormi</i> Ingram & Macfie	---; ---; 230	Vargas	1949
	---; ---; 322	Feijo Colaco	1946
<i>langeroni</i> Kieffer	---; ---; 316	Vargas	1949
<i>leucostictus</i> Kieffer	---; ---; 275	Feijo Colaco	1946
<i>lugens</i> Kieffer	---; ---; 322	Vargas	1949
<i>luteipalpis</i> Santos Abreu	---; ---; 63	Vargas	1949
<i>luteoscutella-</i> <i>tus</i> Santos Abreu	---; ---; 63	Vargas	1949
<i>magnus</i> Feijo Colaco	---; Feb., Nov.; 117	Clastrier & Wirth	1961
<i>meeserellus</i> de Meillon	Tree holes; ---; 322	de Meillon	1936
<i>milnei</i> Austen	---; ---; 13	Lewis	1958
	---; ---; 14, 248, 320, 322	Feijo Colaco	1946
	---; Mar.-May, Dec.; 44	Clastrier	1960
	---; ---; 54	Vargas	1949
	---; Apr.; 102	Macfie	1937
	---; Sept.; 156. ---; ---; 273	Clastrier	1959
	---; in houses; 163	Anderson	1919
	Rotting banana and plantain material; suspected as an important vector of <i>Dipctelonema perstans</i> ; 226	Nicholas et al.	1955
<i>moreli</i> Clastrier	---; ---; 117	Clastrier & Wirth	1961
	---; Sept.; 156. ---; ---; 273	Clastrier	1959
<i>murphyi</i> Clastrier & Wirth	---; July; 117. ---; Feb., Oct.; 226	Clastrier & Wirth	1961

TABLE 1 - MIDGES (continued)

SPECIES	BREEDING HABITATS · ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CULICOIDES</i>			
<i>neglectus</i> Austen	---; in the evening, indoors; 13	Carter et al.	1920
	---; Mar.-May, Sept., Dec., 44	Clastrier	1960
	---; Feb., July, Aug.; 117	Clastrier & Wirth	1961
	Soft mud from edge of pool; ---; 123	Ingram & Macfie	1921
	---; Jan., Mar., Apr., June; 123	Ingram & Macfie	1922
	Soil at base of forest tree; ---; 226	Nicholas et al.	1955
	---; ---; 273	Clastrier	1958a.
	---; ---; 320, 322	Feijo Colaco	1946
<i>neglectus</i> var. <i>albo-</i> <i>alteratus</i> Goetghebuer	---; ---; 63	Vargas	1949
<i>nigeriae</i> Ingram & Macfie	---; Oct.; 117	Bertram et al.	1958
	---; June, Sept., Oct., bites man at midday, in an area of fringing forest near swamp; 117°. ---; Oct., Nov.; 226°	Clastrier & Wirth	1961
	---; collected at an elevation of 2000 feet, Oct., Nov., Dec.; 226	Ingram & Macfie	1921
	---; ---; 273	Clastrier	1959
<i>nigripennis</i> Carter, Ingram & Macfie	Rot hole debris; ---; 123	Carter et al.	1920
<i>nilogenus</i> Kieffer	---; ---; 13	Vargas	1949
<i>nilophilus</i> Kieffer	---; ---; 13	Kieffer	1924
<i>nilotes</i> Kieffer	---; ---; 96	Kieffer	1924
<i>nivosus</i> de Meillon	---; Nov.; 117. ---; Feb., May; 226	Clastrier & Wirth	1961
	Open sunlight pools; ---; 214	de Meillon	1943a.
	Rain water pools; ---; 322	de Meillon	1937

TABLE 1 - MIDGES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CULICCIDES</i>			
<i>nuaipennis</i> Kieffer	---; ---; 8	Vargas	1949
	---; ---; 44	Goetghebuer	1934
<i>obscuripennis</i> Clastrier & Wirth	---; Jan.-Mar., May, Oct.; 117. ---; Mar.; 175*	Clastrier & Wirth	1961
<i>obsoletus</i> Meigen	---; ---; 8	Clastrier	1957
	---; ---; 63	Vargas	1949
<i>ochrothorax</i> Carter	---; Apr.; 44	Clastrier	1960
	---; ---; 123	Carter	1919
<i>octosignatus</i> Kieffer	---; ---; 44	Vargas	1949
<i>ornatigaster</i> Santos Abreu	---; ---; 63	Vargas	1949
<i>pallidipennis</i> Carter, Ingram & Macfie	---; ---; 12	Lewis	1958
	---; Apr.; 44	Clastrier	1960
	---; ---; 96	Nagaty & Morsy	1962
	---; ---; 112, 156, 273, 324	Clastrier	1958a.
	Banana stumps, moist sandy soil near well; Jan., Nov., Dec; 117. ---; Jan.-Feb., Oct.; 226	Clastrier & Wirth	1961
	---; Nov.-June; 123	Ingram & Macfie	1922
	---; indoors in the evening, Dec.-Apr.; *123	Carter et al.	1920
	---; May; 186	Clastrier	1959a.
	---; ---; 292, 322	Feijo Colaco	1946
<i>parroti</i> Kieffer	---; ---; 8*	Sargent et al.	1933
<i>pharas</i> Kieffer	---; ---; 96	Kieffer	1924
<i>pictipennis</i> (Winnertz)	---; ---; 176	Franchini & Cadeddu	1927
<i>pilosipennis</i> Kieffer	---; ---; 96	Kieffer	1924

TABLE 1 - MIDGES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CULICOIDES</i>			
<i>praetermisus</i> Carter,	---; in the evening, indoors; 123	Carter et al.	1920
Ingram & Macfie	Fresh water marsh near beach; ---; 214	de Meillon	1943a.
	---; ---; 273	Clastrier	1958a
	---; ---; 322	de Meillon	1936
<i>pseudopallidipes</i> Clastrier	---; ---; 273	Clastrier	1958a.
<i>pseudopulicoris</i> Goetghebuer	---; ---; 44	Vargas	1949
	---; in houses, bites mainly at night; 115°	Huttel et al.	1953
<i>pulchripes</i> Santos Abreu	---; ---; 63	Vargas	1949
<i>pulicaris</i> (Linnaeus)	---; ---; 8	Vargas	1949
	---; ---; 96	Nagaty & Morsy	1962
	---; Dec., Jan., Apr.; 102	Macfie	1937
	---; ---; 176	Franchini & Cadeddu	1927
<i>pulicaris</i> var. <i>punctatus</i> Meigen	---; ---; 156	Clastrier	1959
<i>puncticollis</i> Becker	---; ---; 8, 316	Vargas	1949
	---; ---; 96	Nagaty & Morsy	1962
<i>punctithorax</i> Carter,	---; Apr.; 44	Clastrier	1960
Ingram & Macfie	Rot hole; ---; 123	Carter et al.	1920
	Rot holes ---; 226	Hopkins	1952
	Rot hole in paw-paw tree; ---; 322	de Meillon	1929
<i>pycnostictus</i> Ingram & Macfie	---; ---; 13	Lewis	1958
	---; May, Aug.; 117 ---; Feb.; 226	Clastrier & Wirth	1961
	---; ---; 123, 214, 322	Vargas	1949
	---; ---; 230, 292	Feijo Colaco	1946
	---; ---; 273	Clastrier	1958a.

TABLE 1 - MIDGES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CULICOIDES</i>			
<i>pycnostictus</i> Ingram & Macfie (cont.)	---; enters houses; 364	Macfie	1926
<i>quadrisignatus</i> Kieffer	Muddy pools; ---; 322	de Meillon	1937
	---; ---; 61	Vargas	1949
<i>quinquelineatus</i> Goetghebuer	---; ---; 44	Vargas	1949
	Wet patches around huts, cocoa plantation, roadsides, primary bush; ---; 226	Hopkins	1952
<i>ravus</i> de Meillon	---; ---; 322	Langeron	1938
<i>remotus</i> Kieffer	---; ---; 131	Feijo Colaco	1946
<i>riethi</i> Kieffer	---; ---; 96	Nagaty & Morsy	1962
<i>ruficollis</i> Goetghebuer	---; ---; 44	Vargas	1949
<i>rutilus</i> Ingram & Macfie	---; ---; 284	Vargas	1949
<i>rutsi aruensis</i> Goetghebuer	---; ---; 44	Vargas	1949
<i>saevus</i> Kieffer	---; ---; 8	Vargas	1949
<i>sahariensis</i> Kieffer	---; ---; 8	Vargas	1949
<i>salinarius</i> Kieffer	---; ---; 8	Vargas	1949
<i>schultzei</i> (Enderlein)	---; ---; 13, 56	Vargas	1949
	---; bites at dusk; 44*	Feijo Colaco	1946
	---; Apr.; 44. Salt water; Dec.; 117. ---; Feb., May, Dec.; 226	Clastrier & Wirth	1961
	---; ---; 54, 57	Ingram & Macfie	1924
	---; Jul.-Nov., peak Sept.; 36	Nagaty & Morsy	1962
	---; ---; 112, 156, 273, 324	Clastrier	1958a.
	---; all year; 123	Ingram & Macfie	1922

TABLE 1 - MIDGES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CULICOIDES</i>			
<i>schultzei</i> (Enderlein; (cont.)	Puddles, backwater of rivers, rotting wood; ---; 123 ---; ---; 292 Muddy, rain water pools; ---; 322 ---; in houses; 364	Carter et al. de Meillon de Meillon Macfie	1920 1943 1937 1926
<i>sciniphes</i> Kieffer	---; ---; 96	Kieffer	1924
<i>scutellatus</i> var. <i>tigala-</i> <i>tensis</i> Santos Abreu	---; ---; 63	Vargas	1949
<i>semitaenulatus</i> Clastrier	---; ---; 8	Clastrier	1958
<i>septemaculatus</i> Goelghebuer	---; ---; 44	Vargas	1949
<i>sergenti</i> (Kieffer)	---; ---; 8	Vargas	1949
<i>sericatus</i> var. <i>albo-</i> <i>hateratus</i> Santos Abreu	---; ---; 63	Vargas	1949
<i>sericatus</i> var. <i>halterat-</i> <i>us</i> Santos Abreu	---; ---; 63	Vargas	1949
<i>signatus</i> Kieffer	---; ---; 13 ---; ---; 112	Kieffer Vargas	1924 1949
<i>silvestrii</i> Kieffer	---; ---; 61	Vargas	1949
<i>similis</i> Carter, Ingram & Macfie	---; ---; 13 ---; ---; 96 ---; Feb., Mar., June, Nov.; 117. ---; Feb.; 226 Soft mud, sandy mud; ---; 123 ---; Jan.-Apr., Nov.; 123 In river canoe; in the evening, indoors; 123	Lewis Nagaty & Morsy Clastrier & Wirth Ingram & Macfie Ingram & Macfie Carter et al.	1958 1962 1961 1921 1922 1920

TABLE 1 - MIDGES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CULICOIDES</i>			
<i>similis</i> Carter, Ingram & Macfie (ccnt.)	Rotting wood; ---; 123 ---; ---; 273 ---; ---; 322 ---; in houses; 364	Macfie & Ingram Clastrier Feijo Colaco Macfie	1923 1959 1946 1926
<i>stephensi</i> Carter	---; Dec.; 96	Carter	1916
<i>tauffliebi</i> Clastrier	---; Dec.; 44	Clastrier	1960
<i>tokwensis</i> de Meillon	---; ---; 292 ---; ---; 322	Vargas de Meillon	1949 1943
<i>trichopis</i> de Meillon	---; ---; 44 ---; sucking human blood between 5:30 PM and 6:15 PM; 44° ---; experimentally infected with <i>Pilaria</i> <i>perstans</i> ; 163	Langeron de Meillon Garnham & Harper	1939 1937 1944
<i>trifasciellus</i> Goetghebuer	---; ---; 44	Vargas	1949
<i>trisignatus</i> Kieffer	---; ---; 61	Vargas	1949
<i>tristanii</i> Huttel, Huttel & Verdier	---; very aggressive between 6-8 AM and 5-6 PM in houses and in forest; 115*°	Huttel et al.	1953
<i>tropicalis</i> Kieffer	---; ---; 54	Vargas	1949
<i>varicornis</i> Santos Abreu	---; ---; 63	Vargas	1949
<i>versicolor</i> var. <i>albidi-</i> <i>dipes</i> Santos Abreu	---; ---; 63	Vargas	1949
<i>vitreipennis</i> Austen	---; ---; 96	Nagaty & Horsy	1962
<i>vitschumbiensis</i> Goetghebuer	---; ---; 44	Vargas	1949
<i>volatilis</i> Goetghebuer	---; ---; 44	Vargas	1949

TABLE 1 - MIDGES (concluded)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CULICOIDES</i>			
<i>watsoni</i> Goetghebuer	---; ---; 44	Sautat	1936
<i>xanthogaster</i> Kieffer	---; ---; 131	Feijo Colaco	1946
<i>zuluensis</i> de Meillon	---; ---; 322	Langeron	1938
<i>HOLOCONOPS</i>			
<i>kerteszi</i> (Kieffer)	---; ---; 13	Lewis	1958
	---; ---; 96	Macfie	1943
<i>mediterraneus</i> Kieffer	---; abundant in April and May; 8	Kieffer	1923
	---; ---; 8°	Foley & Picout- Lafhres	1923
<i>LEPTOCONOPS</i>			
<i>bezzii</i> Noe	---; ---; 316	Carter	1921
<i>dixi</i> de Meillon	---; isolated water hole; 56°	de Meillon	1936
<i>flaviventris</i> Kieffer	---; ---; 316	Carter	1921
<i>kerteszi</i> Kieffer	---; ---; 8	Austen	1921
	---; ---; 96, 316	Carter	1921
<i>laetipennis</i> Kieffer	---; ---; 316	Carter	1921
<i>nicolayi</i> de Meillon	---; bites man at dusk; 44°	de Meillon	1957
<i>rhodesiensis</i> Carter	---; ---; 227°	Carter	1921
<i>MICROCONOPS</i>			
<i>vezans</i>	---; ---; 8	Sergent et al.	1933
<i>STYLOCONOPS</i>			
<i>epinoefrons</i> (Carter)	---; ---; 364	Macfie	1934

TABLE 2 - SUMMARY OF DISEASES OR DISEASE ORGANISMS TRANSMITTED BY MIDGES

SPECIES	DISEASE OR DISEASE ORGANISM					COUNTRY
	VIRUS &					
	RICKETTSIA	PROTOZOA	HELMINTHS	OTHER		
<i>CULICOIDES</i>						
<i>austeni</i> Carter, Ingram & Macfie			<i>Dipetalonema</i> <i>perstans</i>			44, 57, 226
<i>grahami</i> Austen			<i>D. perstans</i>			57, 364
			<i>D. strepto-</i> <i>serca</i>			44
<i>jouberti</i> Huttel, Huttel & Verdier			Red fever of Congo (African dengue fever)			115
<i>tristanii</i> Huttel, Huttel & Verdier			Red fever of Congo (African dengue fever)			115

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E. HORSE FLIES

The entries for horse flies (Tabanidae) include very little biology. Most of the literature on this large and important group is concerned with taxonomy, a lesser amount on distribution and little on disease transmissions.

The synonymy, both at the genus and the species level, is very complex. Several specialists are currently striving to straighten out some of these problems.

In the tables are listed 1080 species or subspecies, but it is certain that many of these are not valid names. Only one species, *Tabanus latus*, is not in the table. This species is listed only as unconfirmed (Table 3).

TABLE 1 - HORSE FLIES

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>ADERSIA</i>			
<i>ambigua</i> Oldroyd	---; Dec.; 322	Oldroyd	1957
<i>callani</i> Oldroyd	---; Feb.; 322	Oldroyd	1957
<i>guichardi</i> Oldroyd	---; June; 284	Oldroyd	1957
<i>oestroides</i> Kersch	---; ---; 163, 364. (Apparently all year, but perhaps seasonal in each area)	Oldroyd	1957
	---; ---; 28- 322	Mackerras	1955
<i>AEGOPHAGAMYIA</i>			
<i>alimudii</i> Giglio-Tos	---; Sept.-Mar.; 275	Oldroyd	1957
<i>aurea</i> Oldroyd	---; ---; 186	Oldroyd	1957
<i>austeni</i> Oldroyd	---; Feb., along shore; 163	Oldroyd	1957
<i>bakilyana</i> Séguy	---; Oct.; 186	Oldroyd	1957
<i>bengalia</i> Séguy	---; Sept.; 186	Oldroyd	1957
<i>bivittata</i> Enderlein	---; Nov.-Mar.; 186	Oldroyd	1957
<i>brunnea</i> Surcouf	---; Dec.-Apr.; 186	Oldroyd	1957
<i>chopardi</i> Surcouf	---; Mar.-May; 186	Oldroyd	1957
<i>cineta</i> Surcouf	---; Dec.-Feb.; 186	Oldroyd	1957
<i>comoroensis</i> Enderlein	---; ---; 186	Oldroyd	1957
<i>completa</i> Oldroyd	---; Sept.; 186	Oldroyd	1957
<i>confusa</i> Surcouf	---; ---; 186	Oldroyd	1957
<i>flava</i> Surcouf	---; Dec.-Mar.; 186	Oldroyd	1957
<i>grandisieri</i> Séguy	---; ---; 186	Séguy	1949

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>AEGOPHAGAMIA</i>			
<i>inornata</i> Austen	---; ---; 186, 275. (Sept.)	Oldroyd	1957
<i>longirostris</i> Séguy	---; Sept.-Oct.; 186	Oldroyd	1957
<i>lurida</i> Enderlein	---; ---; 186	Oldroyd	1957
<i>macrops</i> Séguy	---; ---; 186	Oldroyd	1957
<i>nebulosa</i> Séguy	---; Mar. and June; 186	Oldroyd	1957
<i>notata</i> Surcouf	---; Feb.-Mar.; 186	Oldroyd	1957
<i>proxima</i> Surcouf	---; ---; 186	Oldroyd	1957
<i>pulchella</i> Austen	In loose earth; Oct.; 186*	Oldroyd	1957
<i>pungens</i> Oldroyd	---; on shore, near mangroves; 183	Neave	1912
	---; ---; 186, 364. (Preference for damp sandy patches, Oct.-Dec.)	Oldroyd	1957
	---; littoral, damp sandy patches; 364	Aders	1917
<i>remota</i> Austen	---; ---; 186, 275. (Nov.)	Oldroyd	1957
<i>semiflava</i> (Surcouf)	---; ---; 186	Séguy	1949
<i>seyrigi</i> Séguy	---; Dec.; 186	Oldroyd	1957
<i>styrphoides</i> Enderlein	---; Jan.-May; 186	Oldroyd	1957
<i>terticeps</i> Austen	---; ---; 186	Austen	1920
<i>vadoni</i> Oldroyd	---; Dec.; 186	Oldroyd	1957
<i>variegata</i> Surcouf	---; Sept.-Feb.; 186	Oldroyd	1957
<i>xanthomera</i> Oldroyd	---; Jan.-May; 186	Oldroyd	1957
<i>zeus</i> Oldroyd	---; Jan.-May; 186	Oldroyd	1957

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>AMANELLA</i>			
<i>amblyochroma</i> Speiser	---; ---; 163. ---; rain forest; 364. (Dec.-Mar., mountain rain forest)	Oldroyd	1954
<i>angusta</i> Oldroyd	---; Jan.; 322	Oldroyd	1954
<i>atra</i> Oldroyd	---; Feb.; 322	Oldroyd	1954
<i>emergens</i> Oldroyd	---; Jan.; 322	Oldroyd	1957
<i>furcata</i> Oldroyd	---; Dec.; 322	Oldroyd	1954
<i>grayi</i> Oldroyd	---; Oct.-Nov.; 230	Oldroyd	1957
<i>imbecilla</i> Karsch	---; ---; 214, 230, 320. ---; Sept.-Oct.; 292. ---; Dec.-Jan.; 364	Oldroyd	1954
<i>medialis</i> Oldroyd	---; Nov.-Feb.; 322*	Oldroyd	1954
<i>minor</i> Oldroyd	---; Fe .; 322	Oldroyd	1954
<i>nana</i> Wiedemann	---; Jan.-Feb.; 322	Oldroyd	1954
<i>pondo</i> Oldroyd	---; Oct.; 322	Oldroyd	1954
<i>sulcipalpus</i> Loew	---; ---; 322	Oldroyd	1954
<i>ANALIA</i>			
<i>africana</i> Clay	---; ---; 14, 44, 56, 71, 102, 292, 322. (Sept.- May or June)	Oldroyd	1954
	---; May, savannahs, 226	Crosskey & Crosskey	1955
	---; ---; 319	Itard et al.	1963
	---; ---; 320	Saunders	1964
	---; ---; 322*	Tinsley	1964
	---; Apr.; 364	Chapman	1960
<i>brucei</i> Ricardo	---; ---; 44, 227, 320, 364. (Savannahs of Central Africa, Oct.-May)	Oldroyd	1954
<i>fasciata</i> (Fabricius)	---; oil palms; 89. ---; dry savannah; 112, 324	Ovazzo et al.	1956
	---; May, Aug., Sept.; 156	Doucet et al.	1958

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>ANCALA</i>			
<i>fasciata</i> (Fabricius)	---; ---; 163, 175	Bequaert	1932
(cont.)	---; Jan.-June, Aug., Oct.-Nov., mangrove, high forest, savannahs; 226	Crosskey & Crosskey	1955
	---; ---; 279	Lewis	1956
	---; flood zone, Feb.-Apr., near permanent ponds; 324	Ovazza et al.	1959 (1960)
<i>fasciata</i> <i>fasciata</i> (Fabricius)	---; ---; 14	Travassos Santos Dias	1958
	---; ---; 115, 206, 319	Taufflieb & Finelle	1956
	---; along rivers; 123, 175°. ---; ---; 226. ---; Apr.; 279°	Oldroyd	1954
	---; forest zone, May; 131	Ovazza et al.	1959
	---; flood zone, July-Sept.; 324	Ovazza et al.	1959 (1960)
<i>fasciata</i> <i>mixta</i> Surcouf	---; along rivers; 226	Oldroyd	1954
<i>fasciata</i> <i>nilotica</i> (Austen)	<i>Pistia</i> submerged in water; ---; 13. ---; savannah; 44. ---; along rivers; 226	Oldroyd	1954
	---; ---; 71	Taufflieb & Finelle	1956
	---; near coast, putrid lagunas with oil plantations; 89. ---; Feb., savannahs; 273. ---; dry savannahs; 324	Ovazzo et al.	1956
	---; ---; 112	Holstein	1957 (1958)
	---; Sept.-Nov., 117	Bertram et al.	1958
	---; lake shore; 320. (Larvae associated with the water cabbage <i>Pistia stratiotes</i> L.)	Haddow & Corbet	1960
	---; flood zones, Feb.-Oct.; 324	Ovazzo et al.	1959 (1960)
	---; ---; 364	Lamerton	1962
<i>fuscipes</i>	---; Sept.-Nov.; 117	Bertram et al.	1958
<i>laevipes</i> (Macquart)	---; ---; 13, 273. (June-Sept., West African savannahs)	Oldroyd	1954

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>AVTALA</i>			
<i>latipes</i> (Macquart) (cont.)	---; ---; 71	Taufflieb & Finelli	1956
	---; ---; 112	Holstein	1957 (1958)
	---; Aug., Nov.; 117*	Bertram et al.	1958
	---; ---; 131	Ovazza et al.	1959
	---; high forest, savannahs, Nov.-Aug.; 226	Crosskey & Crosskey	1955
	---; June, Sept.; 324*	Ovazza et al.	1959 (1960)
<i>nocepinia</i> Austen	---; ---; 123, 279. (June-Dec.)	Oldroyd	1954
	---; Apr., June-Jan., savannahs; 226	Crosskey & Crosskey	1955
	---; June; 324. (Normally on savannah)	Ovazza et al.	1959 (1960)
<i>septempunctata</i> Ricardo	---; ---; 227, 292, 354. (Dec.-Mar.)	Oldroyd	1954
<i>subvittata</i> Ricardo	---; Oct.-Mar.; 14	Surcouf	1909
<i>APHOTRICLISTA</i>			
<i>madagascariensis</i> Enderlein	---; ---; 186	Enderlein	1934
<i>ATELOCELLA</i>			
<i>fullabornii</i> Enderlein	---; Oct.; 364	Oldroyd	1954
<i>subulata</i> Oldroyd	---, Nov.; 354	Oldroyd	1957
<i>ATYLOTUS</i>			
<i>agrestis</i> Wiedemann	---; Jan., Mar., July, Nov.; 14	Travassos Santos Dias	1958
	---; savannahs; 14, 44, 273, 322. ---; ---; 89, 96, 123, 131, 156, 227. (Attacks man, associated with open thorn bush and open grassland, enters houses)	Oldroyd	1954
	---; ---; 71. ---; Apr.; 319	Itard et al.	1963
	---; savannah with thorny "meagres"; 112	Holstein	1957 (1958)
	---; in houses at daytime; 117	Bertram et al.	1958

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>ATYLLOTUS</i>			
<i>agrestis</i> Wiedemann (cont.)	---; savannahs, Aug.-Oct.; 226	Crosskey & Crosskey	1955
	---; ---; 292	Barrass	1960
	---; ---; 320	Saunders	1964
	---; dry savannah; 324. (Houses, open land)	Ovazza et al.	1956
	---; May, July-Dec.; 324	Ovazza et al.	1959 (1960)
	---; all year round; 364. (Collected on plain, in grasslands, peaks of activity in morning and late afternoon, not active below 23°C.)	Chapman	1960
<i>albipalpus</i> (Walker)	---; ---; 71	Taugglieb & Finelle	1956
	---; Sept.-Oct.; 89	Quélennec	1962
	---; ---; 117, 123. (July-Sept., strictly west African species)	Oldroyd	1954
	---; savannahs, July-Sept., Nov.; 226	Crosskey & Crosskey	1955
	---; ---; 273	Mornet & Morel	1958
	---; ---; 319	Oldroyd	1957
	---; Apr.-Oct.; 324	Ovazza et al.	1956
<i>alexandrinus</i> Wiedemann	---; June; 8	Surcouf	1924
	In mud on edges of salt lakes and marshy land; males seen resting on tree trunks, shady walls; 96	Efflatoun Bey	1930
<i>ater</i> Rossi	---; ---; 3, 211	Surcouf	1924
<i>diminutus</i> Oldroyd	---, July and Nov.; 13	Oldroyd	1957
<i>diurnus</i> (Walker)	---; ---; 71	Taugglieb & Finelle	1956
<i>fulvianus</i> Loew	---; ---; 44, 322. (Nov.-Jan.)	Oldroyd	1954
<i>fulvus</i> <i>rufipes</i> Meig.	---; July; 211	Leclercq	1961

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>ATYLOTUS</i>			
<i>fusripes</i> (Ricardo)	---; ---; 14	Travassos Santos Dias	1958
	---; present all year round, Nov.-June, in wooded country; 44	Oldroyd	1954
	---; river banks; 112	Holstein	1957 (1958)
	---; savannahs, Nov.-June; 226	Crosskey & Crosskey	1955
	---; ---; 292	Barrass	1960
	---; Apr., May; 319	Itard et al.	1963
	---; dry savannah; 324	Ovazza et al.	1956
	---; found in grasslands, Jan.-Mar.; 364	Chapman	1960
	---; ---; 364*	Lumsden	1955
<i>guyonae</i> Surcouf	---; ---; 8	Larrousse	1923
<i>harmoni</i> Ovazza & Oldroyd	---; ---; 89	Quélenec	1962
	---; June, little dry forest; 324	Ovazza & Oldroyd	1961
<i>loebianae</i> Villeneuve	---; ---; 163	Oldroyd	1954
<i>lunatus</i> Fabricius	---; ---; 3, 211, 316	Surcouf	1924
	---; rare; 96	Efflatoun Bey	1930
<i>macularis</i> (Wiedmann)	---; June; 111	Séguy	1934
<i>neboralis</i> Meigen	---; ---; 8	Séguy	1926
<i>nigromaculatus</i> Ricardo	---; ---; 322. (Oct.-Apr.)	Oldroyd	1954
<i>pulchellus</i> (Loew)	---; ---; 96	Abbassian- Lintzen	1962
<i>rousseleti</i> Macquart	---; ---; 211	Enderlein	1931
<i>subvittatus</i> Séguy	---; Feb.; 211	Séguy	1934
<i>torrensus</i> Macquart	---; found <i>Daucus</i> blossoms; 8	Enderlein	1931

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS, ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>ATYLATUS</i>			
<i>tomentosus</i> Macquart (cont.)	---; ---; 316	Séguy	1926
<i>villosus</i> Macquart	---; ---; 8	Enderlein	1931
<i>BACLOCEROS</i>			
<i>turneri</i> Austen	---; ---; 322	Travassos Santos Dias	1958b.
<i>BOUVIEROMYIA</i>			
<i>alluandi</i> (Giglio-Tos)	---; ---; 275	Séguy	1949
<i>ornata</i> (Austen)	---; ---; 275	Austen	1920
<i>macrops</i> Séguy	---; ---; 186	Séguy	1949
<i>seyrigi</i> (Séguy)	---; ---; 186	Séguy	1949
<i>unimaculata</i> Séguy	---; ---; 186	Séguy	1949
<i>BRAUNSIOMYIA</i>			
<i>cinerea</i> Surcouf	---; Oct.-Apr.; 322	Oldroyd	1957
<i>BUPLIX</i>			
<i>albicinctus</i> Austen	---; ---; 322	Travassos Santos Dias	1958b.
<i>albifacies</i> (Ricardo)	---; ---; 322	Travassos Santos Dias	1958b.
<i>basalis</i> Oldroyd	---; ---; 322	Travassos Santos Dias	1958b.
<i>brachyrhyncha</i> (Bigot)	---; ---; 322	Travassos Santos Dias	1958b.
<i>brunipennis</i> Loew	---; near rivers, 9 a.m.-6 p.m.; 322	Bedford	1926
<i>fuscinervis</i> Austen	---; ---; 322	Austen	1920a.
<i>marvis</i> (Loew)	---; ---; 322	Travassos Santos Dias	1958b.
<i>CADICERA</i>			
<i>biclausa</i> Loew	---; ---; 43, 230, 292, 322	Austen	1917

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CADICEA</i>			
<i>chrysopila</i> Macquart	---; ---; 322	Austen	1912
<i>nitenti</i> Austen	---; ---; 322	Austen	1912
<i>flavicornis</i> Austen	---; ---; 230	Austen	1912
<i>obscura</i> Ricardo	---; ---; 230	Austen	1912
<i>quinque-maculata</i> Austen	---; ---; 322	Bedford	1926
<i>sp. n. n. n.</i> Austen	---; in densely wooded country; 364	Neave	1912
<i>CARDICEA</i>			
<i>rubromarginata</i> Macquart	---; ---; 322	Curson	1928
<i>CHRYSOPS</i>			
<i>adaptatus</i> Séguy	---; Sept.; 186	Oldroyd	1957
<i>addita</i> Oldroyd	---; ---; 186	Oldroyd	1957
<i>aprima</i> Austen	---; wooded and well watered areas, prefers shade, numerous in forest in evening, vicious biter; 186	Oldroyd	1957
<i>aurantiaca</i> Jaennicke	---; ---; 96	Kröber	1925
<i>austeni</i> Neave	---; Jan.; 230	Oldroyd	1957
<i>bicolor</i> Cordier	---; ---, 44, 112, 320, 364 ---; ---; 364*	Kröber Lewis	1927 1960
<i>brunnea</i> Neave	---; banks of forested streams; 230	Oldroyd	1957
<i>brucei</i> Austen	---; common species; 13, 320. ---; resids on lake shore; 44. ---; woodland and open country, papyrus swamps; 320. (All year)	Bequaert Oldroyd	1930 1957
<i>caecutiens</i> Linnaeus	---; ---, 1.0	Canon	1923
<i>calida</i> Walker	---; ---; 322	Oldroyd	1957

SLZ 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CHRYSOPS</i>			
<i>cana</i> Austen	---; ---; 163	Neave	1912
<i>centurionis</i> Austen	(Suspected vector of <i>Loa loa</i> , intermediate host of <i>Dipetalonema perstans</i>)	Neveu-Lemaire	1933
	---; ---; 44. ---; forest; 61. ---; troublesome biter; 206*. ---; general canopy species, swamp and savannah forests; 226. ---; mating site on flowers and shrubs on outskirts of forests; equatorial rain forest belt; 320. (Largely nocturnal, slight biting activity at day, naturally infected with <i>Loa</i> , all year, peak Apr.-July.)	Oldroyd	1947
	---; very abundant in rainy season; 206	Taufflieb & Finelle	1956
	---; bites only at canopy level in rain forest, beginning shortly before sunset and persisting in their attempts for some three hours afterwards, Nov.-Dec., rare at other times of the year; 226*	Duke	1958
	---; crepuscular forest canopy dweller; 226	Duke	1957
	---; transmits <i>Loa-loa</i> ; 226*	Zumpt	1937
	---; bites outdoors; 226	Duke	1955
	---; bites day and night, peak just before and after sunset in forest; 320*	Haddow	1952
	---; swarms in the morning, above forest canopy; 320	Corbet & Haddow	1962
	---; Feb.-June and Nov., peak in Mar.-Apr.; 320	Lumsden	1952
	---; arboreal and crepuscular; 320	Haddow et al.	1961
<i>cerivalis</i> Séguy	---; Dec.-Mar.; 165	Oldroyd	1954
<i>chobanti</i> Villeneuve	---; ---; 6	Krüger	1939
<i>villosa</i> Loew	---; ---; 292, 321, 364. (Nov.-Apr.)	Oldroyd	1957
<i>villosa</i> <i>pusillula</i> Austen	---; ---; 13*, 226. (Sept.)	Oldroyd	1957
<i>confluens</i> Loew	---; ---; 322	Krüger	1927
<i>connerus</i> Loew	---; ---; 5	Krüger	1925
	---; ---; 211	Krüger	1939

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CHRYSOPS</i>			
<i>croceus</i> Séguy	---; Nov., 186	Oldroyd	1957
<i>dimidiata</i> Wulp	(Principal vector of Loa loa, complete development of Loa loa larvae, naturally infected)	Neveu-Lemaire	1933
	---; ---; 14, 44. (Common and troublesome species, bites man, vector of Loa loa)	Travassos Santos Dias	1958b.
	---; in wooded and inhabited areas, transmit Loa loa; 44*	Vanderyst	1928
	---; ---; 56, 322	Króber	1927
	---; infected with larva of filaria; 61	Strong et al.	1926
	---; forest, fringes; 61, 226. ---; ---; 206. ---; along river banks, at canopy and ground levels; 226. (Rain forest species throughout the year but small numbers, Dec.-Mar., bites indoors)	Oldroyd	1957
	---; river edges, savannan, first one found in Sept.; 115	Galliari	1933
	---; ---; 123	Simpson	1914
	---; ---; 214	Séguy	1933
	---; peak of activity in morning and afternoon, all year round, peak of biting density Nov.-Jan., Mar.-May; 226	Duke	1959
	---; bite between 8.30 a.m.-5 p.m. with decrease in activity at midday, 226*	Davey & O'Rourke	1951a.
	Mud along river banks with vegetation, swamps; ---; 226	Davey & O'Rourke	1951b.
	---; naturally infected with Loa loa; 226	Duke	1958
	---; May-Nov.; 226	Davey & O'Rourke	1951
	---; mangrove, high forest, all year, peak Mar.-Nov.; 226*	Crosskey & Crosskey	1955
	---; experimentally infected with Loa loa; 226	Connal & Connal	1921
	---; July; 319	Itard et al.	1963
	--; ---; 320. (Well-known vectors of the human filarial parasite Loa loa)	Haddow et al.	1950
<i>Histiogaster</i> Austen	---; ---; 13*	Woodman	1949
	---; ---; 13*	Duke	1955,

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CHRYSOPS</i>			
<i>distinctipennis</i> Austen	---; development of infective stage of <i>Loa loa</i> ; 13	Gordon	1955
(cont.)	---; ---; 44, 102, 123, 163, 201, 206, 226, 230, 307. (Rain forest proper, forest galleries of savannah country)	Bequaert	1930
	---; ---; 54	Kröber	1927
	---; flood zone, Mar., June-Nov.; 61	Ovazza et al.	1959 (1960)
	---; ---; 71. ---; savannahs; 319	Taufflieb & Finelle	1956
	---; ---; 89	Quélennec	1962
	---; ---; 100	Kröber	1925
	---; savannahs; 112, 117, 201. ---; ---; 163, 227. (In non-forested areas, bites man at ground level in savannah in bright sunshine, Nov.-Aug.)	Oldroyd	1957
	---; in houses at night, Sept.; 117	Bertram et al.	1958
	---; ---; 132	Tendeiro	1947
	---; Sept.; 156. ---; dry savannah; 324	Doucet et al.	1958
	---; open short-grass country near water; 163, 320.	Neave	1912
	---; Sept., Oct., Dec., savannahs; 226	Crosskey & Crosskey	1955
	---; ---; 292	Kröber	1939
	---; savannah; 320*	Haddow	1952
	---; forest canopy; 320	Haddow et al.	1950
	---; June, Aug., savannah; 324	Ovazza et al.	1956
	---; ---; 364*	Smith	1955
<i>flavipes</i> Meigen	---; ---; 8	Kröber	1927
	---; ---; 211	Kröber	1939
<i>flavipes</i> var. <i>punctifer</i> Loew	---; ---; 8, 211	Kröber	1939
<i>fusca</i> Ricardo	---; ---; 163	Anderson	1924

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CHRYSOPE</i>			
<i>flaviventris</i> Austen (cont.)	---; ---; 13, 61, 254. ---; bites by day in forest; 226°. ---; mating site on flowers and shrubs on outskirts of forests; 230. (Typical forest species, sits on underside of leaves, gallery forests, bite in open day and night, in houses, most months)	Oldroyd	1957
	---; rain forest; 44, 163	Bequaert	1930
	---; ---; 156	Rodhain	1916
	---; forest; 206	Taufflieb & Fineille	1956
	---; ---; 227	Neave	1912
	---; forest gallery, rainy season; 319	Itard et al.	1963
	---; forest, open country, in houses, bites by day and night; 320°	Haddow	1952
<i>fuscipennis</i> Ricardo	---; ---; 13, 230, 292, 320. (Nov.-Apr. in south, May-Aug. in north)	Oldroyd	1957
	---; Jan.-Feb.; 230	Neave	1915
	---; ---; 322, 344	Travassos Santos Dias	1958b.
	---; Feb.; 364	Chapman	1960
<i>griseicollis</i> Bequaert	---; ---; 44. ---; bites man in forest; 320°. (Nov.-Apr.)	Oldroyd	1957
	---; ---; 61	Travassos Santos Dias	1958b.
	---; Nov., high forest; 226	Crosskey & Crosskey	1955
	---; rare, forest understorey and canopy, biting in the afternoon; 320	Haddow	1952
<i>inconspicua</i> Austen	---; in Mar., edges of bush, on small wet plains; 14	Oldroyd	1957
<i>inflaticornis</i> Austen	---; ---; 322	Oldroyd	1957
<i>insulensis</i> Austen	---; ---; 186	Oldroyd	1957
<i>longi</i> Bequaert	---; ---; 44	Bequaert	1930
	---; ---; 61. ---; on canopy-platform, experimentally infected with <i>Loa loa</i> ; 226. (Oct.-June)	Oldroyd	1957
	---; forest species; 206	Taufflieb & Finelle	1956

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CHRYSCOPS</i>			
<i>langi</i> Bequaert (cont.)	Muddy rivers and streams; suspected vector of loiasis in monkeys; 226	Crewe	1955
	---; naturally infected with <i>Loa loa</i> , bites only at canopy level in rain forest, beginning shortly before sunset and persisting in their attempts for some three hours afterwards, Nov.-Dec., rare at other times of the year; 226*	Duke	1958
	---; Aug.-Nov., high forest; 226	Crosskey & Crosskey	1955
<i>laniger</i> Loew	---; ---; 14, 163, 322. (Sept.-Mar.)	Oldroyd	1957
	---; collected Aug.-Oct.; 44. ---; ---; 227, 230.	Bequaert	1930
	---; ---; 54	Kröber	1927
	---; ---; 214, 320, 344	Travassos Santos Dias	1958b.
	---; ---; 364	Lamerton	1962
<i>laticeps</i> Austen	---; ---; 214, 322. Mud, ricefields; ---; 230	Oldroyd	1957
	---; marshy depression in open grassland; 322*	Tinsley	1964
<i>iloydi</i> Austen	---; clearing in primeval forest; 186	Kröber	1927
<i>longicornis</i> Macquart	(Possible vector of <i>Loa loa</i>)	Neveu- Lemaire	1933
	---; ---; 13*	Woodman	1949
	---; rain forest; 44. ---; ---; 163, 273. ---; collected on leaves Aug., Sept., Nov., rain forest; 175	Bequaert	1930
	---; ---; 57, 61	Travassos Santos Dias	1958
	---; ---; 71, 206*	Taufflieb & Finelle	1956
	---; Jan., May, lagunas and oil palm plantations; 89. ---; Jan., savannah; 324	Ovazza et al.	1956
	---; in houses at daytime; 117	Bertram et al.	1958
	---; ---; 123	Simpson	1914
	---; ---; 131, 214, 227, 307, 364	Krober	1927
	---; ---; 132	Tendeiro	1947
	---; large forest, May; 156	Doucet et al.	1958

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CHRYSOPE</i>			
<i>longicornis</i> Macquart (cont.)	Muddy streams and swamps; suspected vector of loiasis in monkeys; 226	Crewe	1955
	---; mangrove, high forest, savannahs, Mar., May, Oct., Dec.; 226	Crosskey & Crosskey	1955
	---; open areas, bites in the open; 226°	Oldroyd	1955
	---; ---; 227°, 322, 364°. (Breed in open places, adults in forested areas, sitting under leaves. Prefer wooded areas, even in savannah country)	Oldroyd	1957
	---; peak Sept.-Dec., Jan.-Feb.; 230	Neave	1915
	---; active in rainy season; 230	Fairchild	1942
	---; ---; 279	Simpson	1913
	---; forest, savannah, all year; 319	Itard et al.	1963
	---; forest; 320	Haddow et al.	1950
<i>longicornis</i> var. <i>funebria</i> Austen	---; forest dweller; 54, 320, 364	Kröber	1927
<i>madagascariensis</i> Ricardo	---; July-Jan.; 186	Oldroyd	1957
<i>magnifica</i> Austen	---; ---; 214, 364. (Oct.-Dec.)	Oldroyd	1957
	---; active in rainy season; 230	Fairchild	1942
<i>magnifica</i> var. <i>inornata</i> Austen	---; ---; 214, 364. (Oct.-Dec.)	Oldroyd	1957
	---; active during rainy season Oct.-Apr., Dec.-Jan.; 230	Neave	1915
<i>magnifica</i> <i>magnifica</i> Austen	---; ---; 230, 364	Travassos Santos Dias	1958b.
<i>mauretanicus</i> Costa	---; ---; 8, 211	Kröber	1939
	---; ---; 316	Kröber	1927
<i>mauretanicus</i> var. <i>surcoufi</i> Villeneuve	---; ---; 211	Kröber	1939
<i>maximus</i> Kröber	---; ---; 115	Oldroyd	1957
	---; high forest; 226	Crosskey & Crosskey	1955

TABLE 1 -- HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CHRYSOPS</i>			
<i>natalis</i> Macquart	---; ---; 55, 102, 322	Kröber	1927
<i>neavei</i> Austen	---; Sept.; 44	Oldroyd	1957
<i>nigriflava</i> Austen	---; ---; 163	Anderson	1924
<i>nigrobasisalis</i> Kröber	---; ---; 364	Oldroyd	1957
<i>obliquefascia- ta</i> Macquart	---; ---; 44, 322, 364. (Sept. Apr.) ---; ---; 56	Oldroyd Travassos Santos Dias	1957 1958b.
	---; ---; 100	Kröber	1927
	---; ---; 214	Séguy	1933
<i>obliquefascia- ta</i> form <i>stigmatis- calis</i> Loew	---; ---; 227	Lamerton	1962
<i>pallidiventris</i> Kröber	---; ---; 8 ---; ---; 211 ---; ---; 316	Kröber Kröber Kröber	1939 1927 1925
<i>pallidula</i> Austen	---; ---; 14	Austen	1914
<i>pauliani</i> Oldroyd	---; Jan.; 186	Oldroyd	1957
<i>perpensa</i> Austen	---; ---; 230, 364. (Oct.)	Oldroyd	1957
<i>petersi</i> Oldroyd	---; ---; 364	Oldroyd	1957
<i>punctifer</i> Loew	---; ---; 8, 211	Kröber	1939
<i>pusillula</i> Austen	---; ---; 13, 226 ---; ---; 364	Travassos Santos Dias Kröber	1958b. 1927
<i>quadratus</i> Meigen	---; ---; 8	Kröber	1939
<i>siccus</i> Becker	---; ---; 13, 96	Kröber	1925

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CHRYSOPS</i>			
<i>silaoea</i> Austen	(Naturally infected with and complete development of the larvae of <i>Loa loa</i>)	Neveu-Lemaire	1923
	---; near forest streams; 13. ---; forest fringe, least common in Dec.-Mar.; 61, 226. ---; attacks man in dense forests, seldom attacks in bright sunlight, prefers shade of trees or shelter of veranda; 226°. (Most effective vector of loiasis, occurs also in savannahs when there is enough woods along river banks, bites all day, in houses)	Oldroyd	1957
	---; ---; 13*	Woodman & Bokhari	1941
	---; ---; 44, 106, 115, 123, 254	Bequaert	1930
	---; infected with <i>Filaria</i> ; 61	Strong et al.	1926
	---; ---; 156	Rodhain	1916
	---; ---; 206	Taufflieb & Finelle	1956
	---; bites during day, naturally infected with infective form of <i>Loa loa</i> , chief vector in transmission of loiasis; 226*	Duke	1954
	---; experimentally infected with <i>Loa loa</i> and <i>Dipetalonema perstans</i> ; 226	Kershaw et al.	1954
	---; vector of loiasis from man to man and perhaps between man and monkey; 226*	Crewe	1955
	---; peak of activity in morning and afternoon, abundant Apr.-Dec.; 226	Duke	1959
	---; all year, peak Mar.-Nov., mangrove, high forest, savannahs; 226	Crosskey & Crosskey	1955
	---; May-July, naturally infected with <i>Loa loa</i> ; 226	Connal	1921
	---; forest or forest galleries, all year; 319	Itard et al.	1963
	---; ---; 320. (Well-known vector of human filarial parasite <i>Loa loa</i>)	Haddow et al.	1950
<i>silaceus</i> var. <i>centurionis</i> Austen	---; ---; 320	Kröber	1927
<i>stigmatalis</i> Loew	---; ---; 43	Travassos Santos Dias	1958b.
	---; ---; 44, 100, 102, 214, 284, 292	Bequaert	1930
	---; ---; 61, 307	Kröber	1927
	---; mid. Sept.-Apr.; 322	Bedford	1926

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CHIPSOPS</i>			
<i>streptobolus</i> Speiser	---; ---; 100, 284. (May-Oct.)	Oldroyd	1957
	---; forest, under cover, Jan.-Feb., plain near spring; 102	Ovazza	1956
<i>bellmanni</i> Austen	---; ---; 214	Séguy	1933
	---; ---; 227	Neave	1912
	---; Sept.-Jan.; 230	Neave	1915
	---; active in rainy season; 230	Fairchild	1942
<i>woodi</i> Neave	---; ---; 14	Neave	1915
	---; ---; 214, 227, 292. (Oct.-Dec.)	Oldroyd	1957
	---; thick bush near river; 322	Bedford	1926
<i>zahraei</i> Oldroyd	---; bites in evening and early morning, experimentally infected with <i>Loa loa</i> , naturally infected with infective form of <i>Loa loa</i> ; 226*	Duke	1954
	---; vector of <i>Loa loa</i> ; 226*	Duke	1955
	---; Nov.-May; 226	Crosskey & Crosskey	1955
	---; forest fringes; 226	Oldroyd	1957
<i>CHISOZONA</i>			
<i>egyptiacus</i> Szilády	---, ---; 96	Kröber	1925
<i>algira</i> Kröber	---; ---; 8	Kröber	1939
<i>benoisti</i> Séguy	---; ---; 211	Kröber	1939
<i>bigoti</i> Gobert	---; June; 8. ---, May; 211	Surcouf	1924
<i>bigoti</i> var. <i>ocelligera</i> Kröber	---; ---; 8, 211	Kröber	1939
<i>boghartiensis</i> Surcouf	---; ---; 8	Kröber	1939
<i>crassicornis</i> Wahlberg	---; ---; 211	Kröber	1939
<i>decora</i> Walker	---; along river; 322	Bedford	1926
<i>desertiicola</i> Kröber	---; ---; 8	Kröber	1925

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CHRYSONOMIA</i>			
<i>justicornis</i> Becker	---; ---; 211	Kröber	1925
<i>italica</i> Meigen	---; rare; 8	Surcouf	1924
	---; ---; 211	Kröber	1939
<i>italica</i> <i>rotundata</i> Szilády	---; ---; 8	Kröber	1939
<i>rustica</i> Austen	---; daytime; 322 ^a	Bedford	1926
<i>truncatella</i> Austen	---; ---; 96	Efflatoun Bey	1930
<i>variegata</i> var. <i>rotundata</i> Szilády	---; ---; 8	Kröber	1925
<i>vitata</i> Loew	---; near river; 322	Bedford	1926
<i>CORISONOMIA</i>			
<i>distincta</i> Ricardo	---; ---; 163	Anderson	1924
<i>formosa</i> Austen	---; ---; 322	Austen	1920a.
<i>inornata</i> Austen	---; ---; 322	Austen	1920a.
<i>pallidipennis</i> Ricardo	---; first brood, Oct.-Dec., second brood, Mar.-May; 322	Bedford	1926
<i>sagittaria</i> Surcouf	---; ---; 163	Anderson	1924
<i>schuetzi</i> Austen	---; ---; 44, 364	Austen	1920a.
<i>DASYNOMIA</i>			
<i>apiformis</i> (Neave)	---; ---; 61, 123, 226	Travassos Santos Dias	1958b.
	---; ---; 230	Mackerras	1955
<i>sinuata</i> Enderlein	---; ---; 44, 61	Mackerras	1955
	---; high forest; 226	Crosskey & Crosskey	1955
<i>DASYNOMIA</i>			
<i>orthocentrus</i> Meigen	---; ---; 8, 211	Kröber	1939

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>DASYFARAFIA</i> <i>ater</i> Rossi	---; ---; 211, 316	Kröber	1939
<i>DASYFARAFIA</i> <i>laticornis</i> Enderlein	---; ravine, forest, dry valley; 8. ---; ---; 316	Enderlein	1931
<i>nigrofacies</i> Gobert	---; ---; 8	Séguy	1926
	---; ---; 316	Enderlein	1931
<i>schmidtiana</i> Enderlein	---; dry valley, forest; 8. ---; ---; 316	Enderlein	1931
<i>tunisiensis</i> Enderlein	---; dry valley, forest; 8	Enderlein	1931
<i>DIATOMPHORA</i> <i>aethiopica</i> Thunberg	---; ---; 364	Neave	1912
<i>distenda</i> Ricardo	---; ---; 163	Anderson	1913
<i>distincta</i> Ricardo	---; ---; 54, 364	Neave	1912
<i>hastata</i> Austen	---; ---; 214	Austen	1912
<i>lineatithorax</i> Austen	---; ---; 227	Austen	1912
<i>penetrabilis</i> Austen	---; ---; 227	Austen	1912
<i>DISCHIONE</i> <i>symploides</i> Enderlein	---; ---; 186	Enderlein	1934
<i>DOPHALOCEMUS</i> <i>auricornis</i> Austen	---; ---; 44, 292	Bequaert	1930
<i>hicolor</i> Austen	---; ---; 230	Neave	1912
<i>parvidolichatus</i> Austen	---; ---; 44	Bequaert	1930
<i>compactus</i> (Austen)	---; both sexes visiting flowers of <i>Borreria dibrach-</i> <i>iata</i> ; 44. ---; ---; 163, 214, 227, 230, 292	Bequaert	1930
	---; ---; 102	Mackerras	1955
	---; May; 364	Chapman	1960

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS (GENERAL STATEMENTS)	ADULT ACTIVITY: DISTRIBUTION	AUTHOR	DATE
<i>DORTALDEMUS</i>				
<i>fodiens</i> Austen	---; ---; 230		Neave	1915
<i>silverlocki</i> Austen	---; ---; 227		Austen	1912
	---; Apr.-May; 364		Chapman	1960
<i>boornani</i> Austen	---; ---; 54		Neave	1912
	---; ---; 163		Anderson	1924
<i>EUANGULA</i>				
<i>maculatissima</i> <i>irrorata</i> (Surcouf)	---; ---; 44, 115, 279, 320. (Northerly and Westerly form of equatorial forests, most months of the year except perhaps May and June)		Oldroyd	1954
	---; large forest, May; 131		Ovazza et al.	1959
	---; forest, May, Dec.; 156		Ovazza et al.	1956
	---; ---; 206		Taufillieb & Finelle	1956
	---, forest zone; 319		Itard et al.	1967
<i>maculatissima</i> <i>irrorata</i> var. <i>eburneensis</i> Doucet, Ovazza & Adams	---; forest, May, Sept., Dec.; 156		Doucet et al.	1958
<i>maculatissima</i> <i>maculatissima</i> Macquart	---; ---; 13, 44, 100, 322. (Most months but perhaps principally Sept.-Feb. in South Easterly and Southerly form of open country, associated with riverine forest)		Oldroyd	1954
	---; ---; 43, 115		Surcouf	1909
	---; secondary dense forest, Dec.; 102		Ovazza	1956
	---; ---; 320		Saunders	1964
	---; May, 364		Chapman	1960
<i>GUYONA</i>				
<i>nescitrinoides</i> (Surcouf)	---; ---; 364		Travassos Santos Dias	1956b.
<i>HAEMATOPOTA</i>				
<i>iberdarensis</i> Oldroyd	---; high altitudes. Feb., May, and Oct.; 163		Oldroyd	1952

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>IMMIGRATA</i> <i>divinator</i> Sarcoph	---; ---; 13, 44, 102, 163, 230, 324, 364. (Dec.- Apr. in East, July-Dec. in West)	Oldroyd	1952
	---; savannah; 61	Taufillieb & Finelle	1956
	---; ---; 100	Ferraro	1917
	---; under semi-cover on river banks, wooded savannah of river valley, June, Aug., Sept., Mar.; 102	Ovazza	1956
	---; high forest, savannah, June-Dec.; 226	Crosskey & Crosskey	1955
	---; Nov.-Dec.; 230	Seave	1915
	---; ---; 324. (Savannah)	Ovazza et al.	1959 (1960)
<i>adami</i> Ovazza, Hamon, Rickenbach & Morel	---; savanna, July; 156	Doucet et al.	1958
	---; Apr., June-Sept., on man at sunset and after nightfall; 324	Ovazza et al.	1959 (1960)
	---; savanna, June; 324	Ovazza et al.	1956
<i>albivittata</i> Karsch	---; ---; 13, 39, 44, 102, 132, 163, 214, 284, 292, 320, 364. (Savannahs of Eastern Africa)	Oldroyd	1952
	---; Jan.; 14	Travassos Santos Dias	1958
	---; high forest, June; 226	Crosskey & Crosskey	1955
<i>algira</i> Kröber	---; ---; 8. ---; July; 211	Leclercq	1961
<i>aldana</i> Oldroyd	---; Sept.; 44	Oldroyd	1952
<i>albuafti</i> Sarcoph	---; ---; 102, 320, 364. (Aug., Nov., Feb., Apr.)	Oldroyd	1952
	---; ---; 163	Dry	1921
<i>angustifrons</i> Carter	---; ---; 14, 44, 61. (June-Jan.)	Oldroyd	1952
	---; forest galleries; 206	Taufillieb & Finelle	1956
	---; Dec.-Jan., high forest, mangrove; 226	Crosskey & Crosskey	1955
	---; Jan.; 319	Itard et al.	1963
<i>argentipes</i> Oldroyd	---; ---; 361	Oldroyd	1952

TABLE 1. - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>HAEMATOPOTA</i> <i>aurantiaca</i> Oldroyd	---; Nov.; 14	Oldroyd	1952
<i>lutea</i> Speiser	---; Apr.; 364	Oldroyd	1952
<i>mitis</i> Oldroyd	---; Aug., high forest; 226	Crosskey & Crosskey	1955
	---; forest zone; 319	Itard et al.	1963
<i>baroni</i> Oldroyd	---; ---; 44, 61. (Oct.-Dec.)	Oldroyd	1952
	---; in forest; 206	Taufelieb & Finelle	1956
	---; high forest, Mar., Oct.-Dec.; 226	Crosskey & Crosskey	1955
<i>californica</i> Oldroyd	---; Jan.; 322	Oldroyd	1952
<i>beringeri</i> Austen	---; ---; 89	Quélennec	1962
	---; ---; 123. (July-Aug.)	Oldroyd	1952
	---; July, savannas; 226	Crosskey & Crosskey	1955
<i>bigoti</i> Gobert	---; May, June; 8	Séguy	1926
	---; July; 211	Leclercq	1961
<i>bigoti</i> var. <i>coelligera</i> Kröber	---; ---; 8	Séguy	1930
<i>bipunctata</i> Ricardo	---; ---; 39, 322. (Nov. and Feb.)	Oldroyd	1952
<i>bistrigata</i> Loew	---; ---; 230, 322. (Jan.-Feb.)	Oldroyd	1952
<i>boulengeri</i> Oldroyd	---; ---; 123, 175. (Mar., Oct.-Nov.)	Oldroyd	1952
<i>brevicornis</i> Austen	---; ---; 14	Oldroyd	1952
	---; ---; 36	Lamerton	1962
<i>brucei</i> Austen	---; ---; 13, 44, 320. (Apr.-Dec.)	Oldroyd	1952
	---; July; 156	Doucet et al.	1958
	---; forest; 206	Taufelieb & Finelle	1956
	---; ---; 319	Itard et al.	1963

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>AEMATOPODA</i>			
<i>brunneescens</i> Ricardo	---; ---; 13, 163, 320	Bequaert	1930
	---; ---; 44, 102, 230, 363, 364. (Apr.-Nov., occurs in forest gallery and may be troublesome in boats)	Oldroyd	1952
	---; collected in bush, Feb.-Mar., Dec.; 364	Chapman	1960
<i>brunnipennis</i> Ricardo	---; ---; 14, 44, 230, 292	Bequaert	1930
	---; ---; 364. (June-Dec.)	Oldroyd	1952
<i>brutsaerti</i> Fain	---; Aug.; 44	Oldroyd	1952
	---; common in savannahs; 206	Taufflieb & Finelle	1956
<i>bullatifrons</i> Austen	---; May-July; 89	Quélennec	1962
	---; ---; 112. (May-Sept.)	Oldroyd	1952
	---; in houses; 123	Simpson	1914
	---; ---; 131, 175	Bequaert	1930
	---; high forest savannahs, May-Sept.; 226	Crosskey & Crosskey	1955
	---; ---; 279	Anonymous	1915
	---; July-Aug.; 324	Ovazza et al.	1959 (1960)
<i>burtii</i> Oldroyd	---; ---; 230, 364. (Dec.-Feb.)	Oldroyd	1952
<i>canapicalis</i> Oldroyd	---; Apr.; 227	Oldroyd	1952
<i>ciliatipes</i> Bequaert	---; ---; 13, 226. (Apr.-Nov.)	Oldroyd	1952
	---; Jan.-Feb., Sept.-Oct.; 44.	Bequaert	1930
	---; in forest; 206	Taufflieb & Finelle	1956
	---; forest zone and forest gallery; 319	Itard et al.	1963
<i>circumscripta</i> Loew	---; ---; 214, 292, 322. (Mar.-May)	Oldroyd	1952
<i>claudinae</i> Leclercq	---; Jan.; 44	Oldroyd	1954

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>HAEMATOPOTA</i>			
<i>coalescens</i> Oldroyd	---; Dec.; 364	Oldroyd	1952
<i>cognata</i> Grünberg	---; ---; 44, 364. (Feb.)	Oldroyd	1952
<i>completa</i> Oldroyd	---; Feb., high altitudes; 163	Oldroyd	1952
<i>concurrentis</i> Oldroyd	---; Sept.; 44	Oldroyd	1952
<i>copemani</i> Austen	---; ---; 14, 227* (Dec.-Mar.) ---; Dec., Feb.; 44	Oldroyd Bequaert	1952 1950
	---; open short-grass country, common in Dec.; 227	Neave	1912
<i>cordigera</i> Bigot	(Slow and irregular development of <i>Loa loa</i> in Western Africa) ---; ---; 123 ---; ---; 226 ---; ---; 279	Neveu-Lemaire Simpson Simpson Simpson	1933 1914 1912 1913
<i>coronata</i> Austen	---; Aug.; 102 ---; ---; 284. (Dec., Mar., June)	Ovazza Oldroyd	1956 1952
<i>corsoni</i> Carter	---; ---; 13, 123. (June-Oct.) ---; ---; 14 ---; June, July-Aug.; 89 ---; savannah, Aug., Dec.; 89. ---; savannah; 324 ---; Sept., Savannahs; 226 ---; June-Aug.; 324	Oldroyd Travassos Santos Dias Quélennec Ovazza et al. Crosskey & Crosskey Ovazza et al.	1952 1958b. 1962 1956 1959 (1960)
<i>crassicornis</i> Edwards	---; ---; 163	Anderson	1924
<i>crassiorus</i> Edwards	---; ---; 54 ---; ---; 163, 364. (Jan.-Apr.)	Edwards Oldroyd	1916 1952
<i>creweii</i> Oldroyd	---; Jan.-Mar., Nov., high forest; 226 ---; Feb.-Mar. and Nov.; 226	Crosskey & Crosskey Oldroyd	1955 1952

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>HAEMATOPOTA</i>			
<i>crudelis</i> Austen	---; ---; 44, 163, 214, 227, 364. (Oct.-Mar.)	Oldroyd	1952
	---; Oct., Nov.; 230	Neave	1915
<i>cruenta</i> Austen	---; Feb. and Oct.; 44	Oldroyd	1952
	---; ---; 364	Austen	1914
<i>doveyi</i> Austen	---; ---; 216, 230, 292. (Jan.-Apr.)	Oldroyd	1952
<i>decora</i> Walker	---; ---; 13, 163	Travassos Santos Dias	1958b.
	---; ---; 13°	Woodman & Bokhari	1941
	---; ---; 43, 44, 61, 112, 132, 319, 320. (Almost all months of the year)	Oldroyd	1952
	---; July, Dec.; 89	Quélenneec	1962
	---; Nov., savannahs; 112	Ovazza et al.	1956
	---; in houses at daytime; 117	Bertram et al.	1958
	---; ---; 123	Simpson	1914
	---; Sept., Oct., Dec.; 156	Doucet et al.	1958
	---; forest galleries; 206	Taufflieb & Finelle	1950
	---; ---; 214, 322	Bequaert	1930
	---; Jan.-Dec., peak Nov.; 226°	Oldroyd	1952
	---; all year, savannah; 226	Crosskey & Crosskey	1955
	---; damp sand in dried-up river beds; 227	Neave	1912
	---; Nov.; 230	Neave	1915
	---; all year; 319	Itard et al.	1963
	---; Feb., Apr., June-Dec., in forest, 324	Ovazza et al.	1959 (1960)
<i>delicta</i> Oldroyd	---; ---; 44, 227°. (Sept., Nov., Feb.)	Oldroyd	1952
<i>denhamii</i> Austen	---; ---; 13, 14, 44. ---; May-June; 320	Oldroyd	1952
	---; Apr., Aug.-Sept.; 44. ---; ---; 163	Bequaert	1930

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>HAEMATOPOTA</i>			
<i>denhami</i> Austen (cont.)	---; open grass country; 54. ---; in less forested parts; 320	Neave	1912
	---; collected in bush, Jan.; 364	Chapman	1960
<i>desidiosa</i> Austen	---; ---; 14, 292, 364	Oldroyd	1952
<i>distincta</i> Ricardo	---; ---; 43, 44, 163, 364. (Jan., Apr., May, Sept., Nov.)	Oldroyd	1952
	---; ---; 214	Jones	1915
	---; mountain forests; 230	Neave	1915
<i>distincta</i> form <i>irritans</i> Oldroyd	---; ---; 214, 230	Oldroyd	1952
	---; collected in bush, Jan.; 364	Chapman	1960
<i>distincta</i> form <i>sica</i> Oldroyd	---; ---; 320, 362, 364	Oldroyd	1952
<i>distincta</i> form <i>vulcan</i> Oldroyd	---; ---; 163	Oldroyd	1952
<i>divisaper</i> Austen	---; ---; 44	Bequaert	1930
	---; ---; 115	Taufflieb & Finelle	1956
	---; ---; 227, 230, 292, 364. (Sept.-Feb.)	Oldroyd	1952
<i>duplicata</i> Loew	---; ---; 322. (Sept.-Dec.)	Oldroyd	1952
<i>luttoni</i> Newstead	---; Nov.; 14. ---; Apr. and May; 44	Oldroyd	1952
<i>edar</i> Austen	---; ---; 13, 44, 163. (July-Mar.)	Oldroyd	1952
	---; dry forest; 320*	Haddow	1952
<i>elephantina</i> Oldroyd	---, ---; 206	Oldroyd	1952
	---; ---; 319	Itard et al.	1963
<i>epoptica</i> Séguy	---, Feb.-June; 131	Oldroyd	1957
<i>erythrona</i> Oldroyd	---; May; 14	Travassos Santos Dias	1958
	---; Dec.; 44	Oldroyd	1952

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>HAEMATOPOTA</i>			
<i>evariszens</i> Oldroyd	---; July; 89	Quélennec	1962
	---; ---; 112	Holstein	1957 (1958)
	---; June-Sept.; 123	Oldroyd	1952
	---; July-Aug.; 324	Ovazza et al.	1959 (1960)
<i>exiguicornuta</i> Carter	---; ---; 123. (July-Oct.)	Oldroyd	1952
	---; July-Aug., savannah; 226	Crosskey & Crosskey	1955
<i>faini</i> Oldroyd	---; ---; 361	Oldroyd	1952
<i>fasciatape</i> Edwards	---; ---; 227, 230, 364. (Jan.)	Oldroyd	1952
	---; ---; 364. (In plateau area)	Lumsden	1955
<i>fenestralis</i> Oldroyd	---; ---; 44, 320, 361	Oldroyd	1952
	---; ---; 364	Lamerton	1962
<i>ferruginea</i> Oldroyd	---; Feb.-Mar.; 163	Oldroyd	1952
<i>festiva</i> Oldroyd	---; ---; 320, 361. (Jan.-Sept.)	Oldroyd	1952
<i>fraterna</i> Oldroyd	---; Oct. and Dec.; 44	Oldroyd	1952
<i>fulva</i> Austen	---; sedgy and grass grown marshes near larger streams, vicious biter; 14°. (Feb.)	Oldroyd	1952
<i>furians</i> Edwards	---; ---; 131, 175, 273, 279. (Apr.-Dec.)	Oldroyd	1952
<i>furtiva</i> Austen	---; ---; 163	Anderson	1913
	---; ---; 227, 230. (Jan., Feb.)	Oldroyd	1952
<i>furva</i> Austen	---; common in grasslands, below mountain forest; 44. (Oct.-May) ---; swamps all over forested areas; 54	Oldroyd	1952
	---; in forest; 44, 163, 364	Bequaert	1930
	---; forest, grasslands, swamp, bites by day in sun;	Haddow	1952
<i>fusca</i> Austen	---; ---; 14, 44, 163. ---; forest areas; 320. (Feb., May, June, July, Dec.)	Oldroyd	1952
	---; ---; 364	Lamerton	1962

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>HAEMATOPOTA</i>			
<i>fuscicornis</i> Becker	---; ---; 211	Séguy	1930
<i>fuscolimbata</i> Fain	---; grassy plateau along rivers; 14, 44*	Oldroyd	1952
<i>gallii</i> Bouvier	---; in forests near rivers, forest galleries; 14. ---; ---; 44. (May, June, Aug.)	Oldroyd	1952
<i>gracilis</i> Austen	---; ---; 44	Travassos Santos Dias	1958b.
	---; June-Aug.; 89	Quélenec	1962
	---; ---; 123, 226. (June-Aug.)	Oldroyd	1952
	---; ---; 156. ---; July-Aug.; 324	Ovazza et al.	1959 (1960)
	---; June-Oct., savannahs; 226	Crosskey & Crosskey	1955
<i>gracilis</i> var. <i>pseudogra-</i> <i>cilis</i> Ovazza, Hamon, Rickenbach & Morel	---; ---; 156. ---; July, Aug.; 324	Ovazza et al.	1959 (1960)
<i>grahami</i> Austen	---; ---; 113. ---; May; 131. (Forest species)	Ovazza et al.	1959
	---; ---; 123, 156. (Forest species. Mar., June, Oct.-Nov.)	Oldroyd	1952
	---; ---; 226	Connal	1926
	---; ---; 279	Simpson	1913
	---; Mar.; 324	Ovazza et al.	1959 (1960)
<i>grenieri</i> Ovazza	---; in forest, Jan.; 102	Ovazza	1956
<i>grenieri</i> var. <i>bongae</i> Ovazza	---; forest, Feb.; 102	Ovazza	1956
<i>griseicoxa</i> Oldroyd	---; ---; 13, 44, 226. (Mar., May, Aug.-Oct.)	Oldroyd	1952
	---; ---; 61	Travassos Santos Dias	1958b.
	---; ---; 113	Ovazza et al.	1959
	---; forest, July-Aug., present in Jan., May; 156	Doucet et al.	1958

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>HAEMATOPOTA</i>			
<i>griseicornis</i> Oldroyd (cont.)	---; common in forests; 206	Taufflieb & Finelle	1956
	---; Oct.; 225	Crosskey & Crosskey	1955
	---; July; 319	Itard et al.	1963
<i>guineensis</i> Bigot	---; ---; 14, 44, 61, 123, 206. (Nearly every month of the year)	Oldroyd	1952
	---; ---; 115. ---; common in rainy season; 206	Taufflieb & Finelle	1956
	---; May; 131	Ovazza et al.	1959
	---; July; 156	Doucet et al.	1958
	---; ---; 175, 279	Bequaert	1930
	Deep forest, near edge of forest, farmlands; ---; 226	Williams	1962
	---; high forest, savannahs, Jan., Mar., June-July, Oct., Dec.; 226	Crosskey & Crosskey	1955
	---; all year, Jan., June; 319	Itard et al.	1963
	---; swampy forest, bites by day and night; 320°	Haddow	1952
<i>harpax</i> Austen	---; Aug.-Mar.; 44	Oldroyd	1952
	---; Oct., Dec.; 44°	Bequaert	1930
	---; river edge, forest; 115	Galliard	1933
	---; forest species; 206	Taufflieb & Finelle	1956
	---; Sept.; 319	Itard et al.	1963
<i>hastata</i> Austen	---; ---; 14, 279. ---; swamps and "water holes"; 123	Austen	1914
	---; May-July; 89	Quélennec	1962
	---; streams and water courses; 226. ---; ---; 307. (July-Aug.)	Oldroyd	1952
	---; June-Sept., savannahs; 226	Crosskey & Crosskey	1955
	---; ---; 226°	Golding	1938
<i>heptagramma</i> Speiser	---; ---; 106. (Dec.-Feb.)	Oldroyd	1952
	---; high forest, Mar.-Dec.; 225	Crosskey & Crosskey	1955

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>HAEMATOPOTA</i>			
<i>hieroglyphica</i> Gerstaecker	---; ---; 163, 364. (Apr.-July)	Oldroyd	1952
<i>hirsuta</i> Fain	---; ---; 44	Oldroyd	1952
<i>hirsuticornis</i> Oldroyd	---; ---; 320	Oldroyd	1952
<i>hirsutitarsis</i> Austen	---; Nov.-Dec.; 14. ---; Feb.-June; 44. ---; ---; 227.	Oldroyd	1952
<i>hirta</i> Ricardo	---; Mar., Apr., Nov.; 44. ---; ---; 163, 364	Bequaert	1930
	---, bites by day in swamps; 320°	Haddow	1952
<i>hispanica</i> Szilády	---; July; 211	Leclercq	1961
<i>horrida</i> Oldroyd	---; ---; 226	Oldroyd	1952
<i>hostilis</i> Austen	---; Nov.-Dec.; 14	Oldroyd	1952
<i>imbricatus</i> Wiedemann	---; ---; 292. ---; Mar., Dec.; 322	Oldroyd	1952
	---; ---; 364	Morstatt	1913
<i>infernalis</i> Oldroyd	---; ---; 56, 322. (Oct.)	Oldroyd	1952
<i>inflaticornis</i> Austen	---; Nov., Dec.; 14	Oldroyd	1952
<i>ingluviosa</i> Austen	---; ---; 44, 227, 230, 292	Oldroyd	1952
<i>inornata</i> Austen	---; ---; 44, 320. (Nov.-May)	Oldroyd	1952
	---; July; 319	Itard et al.	1963
	---; ---; 364	Austen	1926
<i>insatiabilis</i> Austen	---; Oct., Nov.; 44. ---; ---; 227	Bequaert	1930
	---; ---; 115	Galliard	1933
	---; Nov., Dec.; 230	Neave	1915
<i>insidiatrix</i> Austen	---; Nov., Dec.; 14	Travassos Santos Dias	1958
	---; ---; 44, 227, 230, 292, 364. (Oct.-Feb., June)	Oldroyd	1952
	---; ---; 163	Anderson	1913

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>HAEMATOPOTA</i>			
<i>insidiatrix</i> Austen (cont.)	---; savannahs; 206	Taufflieb & Finelle	1956
	---; Dec.-Mar.; 291	Barrass	1960
	---; Dec.-Jan.; 364	Chapman	1960
<i>katangaensis</i> Oldroyd	---; ---; 44	Oldroyd	1952
<i>lancesaera</i> Austen	---; ---; 279	Anonymous	1915
<i>lanceus</i> Austen	---; ---; 132, 226. (July-Sept.)	Oldroyd	1952
	---; June-Oct., savannahs, high forest; 226	Crosskey & Crosskey	1955
	---; ---; 279	Simpson	1913
	---; July-Sept., all night, enters houses; 324°	Ovazza et al.	1959 (1960)
	---; savannah; 324	Ovazza et al.	1956
<i>larbi</i> Villeneuve	---; July; 211	Leclercq	1961
<i>lamborni</i> Oldroyd	---; ---; 163, 320, 364. (Apr.-May)	Oldroyd	1952
<i>lamottei</i> Séguy	---; Feb.-Apr.; 131	Oldroyd	1957
<i>lasiops</i> Oldroyd	---; ---; 54. (Sept.-Oct.)	Oldroyd	1952
	---; Sept., Oct., Feb., Jan., savannah, plain near spring; 102	Ovazza	1956
<i>lathamii</i> Surcouf	---; May; 102	Oldroyd	1952
<i>laverani</i> Surcouf	---; ---; 44	Bequaert	1930
<i>lepointei</i> Ovazza	---; ---; 89	Quélennec	1962
<i>lewisi</i> Oldroyd	---; ---; 13°, 320. (June-Oct.)	Oldroyd	1952
<i>longa</i> Ricardo	---; ---; 163, 200. (Jan)	Oldroyd	1952
	---; ---; 364	Lamerton	1962
<i>machadoi</i> Travassos Santos Dias	---; Oct.; 14	Travassos Santos Dias	1958

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS: ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>HAEMATOPOTA</i>			
<i>mostae</i> Austen	---; ---; 44, 102, 163, 214, 227, 230, 284, 292, 320, 364. (Probably restricted to savannah country)	Bequaert	1930
	---; ---; 132	Tendeiro	1947
	---; ---; 322	Curson	1928
<i>maculiplena</i> Karsch	---; ---; 102	Oldroyd	1957
	---; ---; 364	Oldroyd	1952
<i>maculosifacies</i> Austen	---; ---; 123	Austen	1914
	---; in forest; 163	Lumsden	1953
	---; ---; 214, 230, 322, 364. (Dec.-Sept.)	Oldroyd	1952
<i>maliflua</i> Austen	---; ---; 230	Oldroyd	1952
<i>marakwetana</i> Séguy	---; ---; 102	Travassos Santos Dias	1958b.
	---; Mar., May and Dec.; 163	Oldroyd	1952
<i>marthae</i> Leclercq	---; Jan.; 44	Oldroyd	1957
<i>maeseyi</i> Austen	---; ---; 44, 227	Bequaert	1930
	---; ---; 364	Oldroyd	1952
<i>meteorica</i> Corti	---; Mar.-May; 102	Oldroyd	1952
<i>microcera</i> Séguy	---; Dec.; 163	Oldroyd	1952
<i>-longensis</i> Oldroyd	---; ---; 214, 230. (Jan., Feb., Dec.)	Oldroyd	1952
<i>molesta</i> Austen	---; ---; 14, 44. (Nov.-Dec.)	Oldroyd	1952
<i>nordae</i> Surcouf	---; Mar.; 102	Oldroyd	1952
<i>nordens</i> Edwards	---. July; 89	Quélennec	1962
	---; ---; 123, 307. (June-July)	Oldroyd	1952
<i>noveboracensis</i> Austen	---; ---; 320, 361. (Possibly a mountain forest species)	Bequaert	1930
<i>noveboracensis</i> Edwards	---; ---; 13, 44. (Apr.-Aug.)	Oldroyd	1952
	---; ---; 319	Tauffman & Finckle	1956

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>HAEMATOPOTA</i>			
<i>nefunda</i> Edwards (cont.)	---; June-July and Sept., in forest late at night and morning, enters houses; 320°	Haddow	1952
	---; forest zone, rainy season July-Aug.; 320	Itard et al.	1963
	---; crepuscular or nocturnal activity; 320	Haddow & Corbet	1960
<i>nefundoides</i> Oldroyd	---; ---; 44, 320. (Feb., Sept., Oct.)	Oldroyd	1952
<i>nigripennis</i> Austen	---; ---; 44	Bequaert	1930
	---; in forests; 292, 320. (Nov.-Apr.)	Oldroyd	1952
	---; ---; 344	Travassos Santos Dias	1958b.
<i>nigrocincta</i> Oldroyd	---; Dec.; 44	Oldroyd	1952
<i>nitidifacies</i> Oldroyd	---; Aug.; 44	Oldroyd	1952
<i>nobilis</i> Grünberg	---; forested slopes, Oct.-Dec.; 230	Neave	1915
	---; ---; 292, 364. (May, Sept.-Dec.)	Oldroyd	1952
<i>nocens</i> Austen	---; ---; 44, 227, 230. (Dec.-Feb.)	Oldroyd	1952
<i>noctiva</i> Austen	---; ---; 227. (Jan.-Feb.)	Oldroyd	1952
	---; Dec.-Jan.; 230	Neave	1915
<i>noctialis</i> Austen	---; ---; 44, 163, 227, 230, 292, 364. (Jan.-June)	Oldroyd	1952
<i>obscura</i> Loew	---; ---; 322. (Oct.-Nov.)	Oldroyd	1952
<i>obsoleta</i> Edwards	---; Apr.; 230	Oldroyd	1952
<i>occidentalis</i> Oldroyd	---; June, July; 279	Oldroyd	1952
<i>ocellata</i> Wiedemann	---; ---; 322. (July-Dec.)	Oldroyd	1952
<i>ochracea</i> (Bezzi)	---; Sept.; 14	Travassos Santos Dias	1958
	---; Mar., June, Sept., Dec.; 44	Bequaert	1930
<i>oldroydi</i> Travassos Santos Dias	---; Feb.; 214	Oldroyd	1957

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>HAEMATOPOTA</i>			
<i>pallidicornis</i> Edwards	---; ---; 226	Edwards	1916
<i>pallidimarginata</i> Austen	---; ---; 14, 44. (Apr., June, Nov., Dec.)	Oldroyd	1952
<i>pallidipennis</i> Austen	---; ---; 13, 44, 61, 307. (Jan.-Dec.)	Oldroyd	1952
	---; ---; 89	Quélennec	1962
	---; savannah, Dec.; 156	Doucet et al.	1958
	---; forest; 156	Ovazza et al.	1956
	---; Aug.-Dec., peak Oct. savannah; 226	Crosskey & Crosskey	1955
	---; Oct.-Dec.; 226	Golding	1938
	---; ---; 324	Ovazza et al.	1959 (1960)
<i>pardalina</i> Oldroyd	---; ---; 214, 322. (Nov.-Feb.)	Oldroyd	1952
	---; ---; 322°	Tinley	1964
<i>partifascia</i> Bequaert	---; ---; 44, 61. (Jan.-Sept.)	Oldroyd	1952
	---; ---; 319	Itard et al.	1963
<i>patelliforme</i> Enderlein	---; ---; 13, 44, 102, 163, 226, 307. (All months of the year except possibly Aug. and Sept.)	Oldroyd	1952
	---; Apr., July-Aug., savannah; 226	Crosskey & Crosskey	1955
	---; all year, Mar.-Oct.; 319	Itard et al.	1963
	---; crepuscular and nocturnal activity; 320	Haddow & Corbet	1960
	---; ---; 320°	Haddow	1952
	---; ---; 364	Lamerton	1962
<i>paulettiae</i> Fain	---; Jan.-Oct.; 44	Oldroyd	1952
	---; forest galleries; 206	Taufflieb & Finelle	1956
<i>pearsoni</i> Oldroyd	---; Jan.-Apr.; 279	Oldroyd	1957
<i>pellucida</i> (Surcouf)	---; ---; 14	Bequaert	1930
	---; savannah, Nov.-May; 44	Oldroyd	1952

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>HAEMATOPOTA</i>			
<i>pellucida</i> (Surcouf) (cont.)	---; ---; 230	Neave	1912
<i>pertinens</i> Austen	---; ---; 13, 320. (July-Dec. in north of its range, Jan.-May in south)	Oldroyd	1952
	---; ---; 44, 214, 227, 230, 292. (Appears to be widely distributed in savannahs of tropical Africa)	Bequaert	1930
	---; all year, peak July-Aug., savannah; 226	Crosskey & Crosskey	1955
	---; ---; 364	Lamerton	1962
<i>perturbans</i> Edwards	---; Dec.-Mar.; 44	Oldroyd	1952
	---; ---; 206	Van Saceghem	1916
<i>peusi</i> Oldroyd	---; ---; 44, 230, 364. (Apr.-June)	Oldroyd	1952
<i>picta</i> Surcouf	---; ---; 102	Oldroyd	1952
<i>pinguicornis</i> Carter	---; ---; 123	Carter	1915
	---; July-Sept., savannahs; 226	Crosskey & Crosskey	1955
	---; ---; 226, 307. (Apr., Aug., Sept.)	Oldroyd	1952
	---; July-Sept.; 324	Ovazza et al.	1959 (1960)
<i>pottsi</i> Oldroyd	---; ---; 364	Oldroyd	1952
<i>pseudogracilis</i> Ovazza, Hamon, Rickenbach & Morel	---; Aug.; 156. ---; July; 324	Ovazza et al.	1956
<i>pulchella</i> Edwards	---; Oct.-Dec.; 230	Bequaert	1930
<i>pulchrithorax</i> Austen	---; ---; 364	Moistatt	1913
<i>pruniens</i> Austen	---; ---; 226	Johnston	1916
<i>pygmaea</i> Enderlein	---; July-Aug.; 307	Oldroyd	1952

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>HAEMATOPOTA</i>			
<i>rabida</i> Edwards	---; Nov.; 230	Oldroyd	1952
<i>recurrens</i> Loew	---; ---; 322	Oldroyd	1952
<i>remota</i> Oldroyd	---; ---; 102	Oldroyd	1952
<i>restricta</i> Oldroyd	---; ---; 44	Oldroyd	1952
<i>rubens</i> Austen	---; ---; 227, 230, 292, 364. (Nov.-Mar.)	Oldroyd	1952
<i>rubidicornis</i> Oldroyd	---; attacks man in forest, Sept.-Apr.; 322*	Oldroyd	1952
<i>rufula</i> Surcouf	---; ---; 61, 206. ---; July-Aug.; 279	Oldroyd	1952
	---; ---; 131	Ovazza et al.	1959
	---; savannah and forest districts; 319	Taufflieb & Finelle	1956
	---; savannah and forest region; 320	Itard et al.	1963
<i>sanguinaria</i> Austen	---; ---; 14. (July-Oct.)	Oldroyd	1952
	---; July, Sept., Oct.; 44. ---; ---; 227	Bequaert	1930
	---; ---; 230	Neave	1912
<i>schoutedeni</i> (Surcouf)	---; ---; 44	Bequaert	1930
<i>scutellaris</i> Loew	---; ---; 322	Oldroyd	1952
<i>semiclara</i> Austen	---; long grass, thin bush, Nov. and Dec.; 14	Oldroyd	1952
	---; ---; 123	Simpson	1914
<i>seydeli</i> Oldroyd	---; Oct.-Dec.; 44	Oldroyd	1952
<i>sidamensis</i> Surcouf	---; July-Aug.; 102	Oldroyd	1952
<i>silvati</i> Travassos Santos Dias	---; ---; 214	Travassos Santos Dias	1958b.
<i>similis</i> Ricardo	---; Apr.; 44, 227, 304, 361. ---; May-Nov.; 163, 320	Oldroyd	1952
	---; Dec., Jan., and Feb., in savannah; 44	Bequaert	1930

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>HAEMATOPOTA</i>			
<i>similis</i> Ricardo (cont.)	---; open short-grass country; 54, 320	Neave	1912
	---; ---; 279	Anonymous	1915
<i>spectabilis</i> Oldroyd	---; Oct.-Nov.; 322	Oldroyd	1952
<i>stimulans</i> Austen	---; Dec.; 14	Travassos Santos Dias	1958
	---; ---; 44, 227, 230	Bequaert	1930
	---; ---; 292. (Dec.-Jan.)	Oldroyd	1952
	---; June; 319	Itard et al.	1963
<i>strigipennis</i> Karsch	---; ---; 71	Muraz	1922
<i>superba</i> Oldroyd	---; May; 163	Oldroyd	1952
<i>tabanula</i> Bequaert	---; Jan., Feb., Sept.; 44	Oldroyd	1952
<i>tacifurna</i> Austen	---; ---; 13, 96. (Aug.)	Oldroyd	1952
	---; ---; 102, 227	Neave	1912
	---; in houses at night; 117	Bertram et al.	1958
	---; June; 320	Oldroyd	1957
<i>tenuicrus</i> Austen	---; ---; 89	Quélenec	1962
	---; savannah, July; 112, 156. ---; savannah, houses; 324	Ovazza et al.	1956
	---; ---; 123. (June-Sept.)	Oldroyd	1952
	---; June-Oct., high forest, savannahs; 226	Crosskey & Crosskey	1955
	---; July-Sept, bites sometimes until 10 p.m.; 324*	Ovazza et al.	1959 (1960)
<i>tenuis</i> Austen	---; ---; 13, 226, 320. (July and Aug.)	Oldroyd	1952
	---; savannah, Aug.; 112	Ovazza et al.	1956
	---; in houses at daytime; 117	Bertram et al.	1958
	---; ---; 163	Anderson	1924
	---; June-Sept., savannah; 226	Crosskey & Crosskey	1955

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>HAEMATOPOTA</i>			
<i>tenuis</i> Austen (cont.)	---; forest gallery in forest, May-July; 319	Itard et al.	1963
	---; July; 324	Ovazza et al.	1959 (1960)
<i>theobaldi</i> Carter	---; ---; 322. (Dec.-Mar.)	Oldroyd	1952
<i>torquens</i> Austen	---; ---; 44	Bequaert	1930
	---; ---; 123°, 175, 279. (Jan.-Mar., Aug.)	Oldroyd	1952
	---; forests, villages, along roads, Jan., Mar., July, very abundant in certain places during day; 156	Doucet et al.	1958
<i>transiens</i> Oldroyd	---; ---; 13, 44, 320 (Feb.-Sept.)	Oldroyd	1952
	---; ---; 319	Itard et al.	1963
<i>transvaalensis</i> Carter	---; ---; 322	Carter	1915
<i>tumidicornis</i> Austen	---; ---; 44	Bequaert	1930
	---; May, in rainy season; 163	Oldroyd	1952
	---; ---; 364	Lamerton	1962
<i>ugandae</i> Ricardo	---; ---; 13, 44, 163, 320, 361. (Jan.-Nov.)	Oldroyd	1952
	---; exclusively ground-haunting and diurnal species; 320	Haddow et al.	1961
	---; ---; 364	Lamerton	1962
<i>unicolor</i> Ricardo	---; ---; 163, 320. (Apr., May)	Oldroyd	1952
<i>vandenbrandeni</i> Rodhair, Pons, Vandenbranden & Bequaert	---; ---; 44	Rodhair et al.	1913
<i>viridis</i> Austen	---; Dec.; 44	Oldroyd	1952
<i>vicina</i> Surcouf	---; ---; 102	Oldroyd	1952
<i>vulgatipennis</i> Austen	---; Nov.-Dec.; 14.	Oldroyd	1952
<i>vitrata</i> Loew	---; ---; 13, 111, 163, 214, 226, 227, 284, 292, 322, 364	Bequaert	1930
	---; ---; 14, 361. (Oct.-May)	Oldroyd	1952

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>HAEMATOPOTA</i>			
<i>vittata</i> Loew (cont.)	---; Nov.; 14	Travassos Santos Dias	1958
	---; ---; 61	Cuibert	1937
	---; savannahs and forests; 206	Taufflieb & Finelle	1956
	---; active throughout rainy season; 230	Neave	1915
	---; forest floor and banana plantations; 320 ^a	Haddow et al.	1950
<i>vulnerans</i> Surcouf	---; ---; 163, 364. (Oct.-Apr.)	Oldroyd	1952
<i>vulnifica</i> Séguy	---; ---; 163, 363. (Jan.-Mar.)	Oldroyd	1952
<i>wittei</i> Oldroyd	---; ---; 13	Lewis	1958
	---; ---; 44, 102, 163, 320. (May-Oct.)	Oldroyd	1952
	---; June; 319	Itard et al.	1963
	---; ---; 364	Lamerton	1962
<i>zombaensis</i> Oldroyd	---; ---; 230	Oldroyd	1952
<i>zuluensis</i> Oldroyd	---; ---; 322. (July-Dec.)	Oldroyd	1952
<i>HETEROCHRYSOPS</i>			
<i>connerus</i> Loew	---; ---; 211	Surcouf	1924
<i>HINEA</i>			
<i>bicolor</i> Austen	Rotholes in trees at about 2,500 feet, cannibalistic; ---; 230	Lamborn	1938
<i>dubiosa</i> Bequaert	---; ---; 44	Bequaert	1930
<i>expatriata</i> Oldroyd	---; ---; 186	Oldroyd	1957
<i>fallax</i> Macquaert	---; ---; 322. (Oct.)	Oldroyd	1957
<i>jacoti</i> Bouvier	---; rain forest; 44. ---; rotholes in trees; 230. ---; ---; 292. (Possibly nocturnal or crepuscular; Dec.-May)	Oldroyd	1957
	---; ---; 320	Corbet & Haddow	1962
<i>lugubris</i> Austen	---; ---; 227, 292. (Nov.-Jan.)	Oldroyd	1957

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>LINEA</i>			
<i>pertusa</i> Loew	---; ---; 43, 44, 322, 364. (Dec.-Jan.)	Oldroyd	1957
	---; ---; 214, 292	Travassos Santos Dias	1958b.
<i>praestabilis</i> Grünberg	---; ---; 61, 226. (Dec.-Jan.)	Oldroyd	1957
<i>rodhaini</i> (Bequaert)	---; ---; 44, 205	Bequaert	1930
	---; ---; 61, 123. (Nov., Mar., June, probably throughout year)	Oldroyd	1957
	---; ---; 115	Taufflieb & Finella	1956
	---; Sept.; 156	Doucet et al.	1958
<i>HIPPOCENTRUM</i>			
<i>concolor</i> Speiser	---; Dec., high forest; 226	Crosskey & Crosskey	1955
<i>inappendicu- latum</i> Bigot	---; ---; 115	Oldroyd	1952
<i>murphyi</i> Austen	---; ---; 123. (June-Sept.)	Oldroyd	1952
	---; forest, villages, very abundant in July, very aggressive, between 11 p.m.-2 a.m., rarely bites during day, only when cold and cloudy; 156. ---; ---; 175	Doucet et al.	1958
	---; in swampy places; 279°	Simpson	1913
<i>strigifemur</i> (Karsch)	---; ---; 13, 44, 123, 226, 320. (All year)	Oldroyd	1952
	---; very vicious biter, Jan., Feb., May, July, Sept., and Dec., extremely common in forest; 44°. ---; ---; 206, 279	Bequaert	1930
	---; May; 89	Ovazza et al.	1956
	---; ---; 115	Galliard	1933
	---; May; 131	Ovazza et al.	1959
	---; forest, Sept., 156	Doucet et al.	1958
	---; in forest galleries, frequent in rainy seasons Apr.-June; 319	Itard et al.	1963
	---; bites man in forest and swamps; 320°	Hajdow	1952
	---; June-Aug., shaded zones, near oil palms, on edges and interiors of little forests and forest galleries; 324	Ovazza et al.	1959 (1960)

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>HIPPOCENTRUM</i> <i>strigipenne</i> var. <i>ovazzi</i> Quélennec	---; ---; 89	Quélennec	1962
<i>rimiculatum</i> Newstead	(Slow and irregular development of <i>Loa loa</i> in Western Africa)	Neveu-Lemaire	1933
	---; ---; 123	Simpson	1914
	---; ---; 226	Simpson	1912
	---; ---; 279	Simpson	1913
<i>versicolor</i> Austen	---; ---; 13, 44, 61, 123, 320. ---; most common biting fly in June, July and Aug.; 226°. (June-Nov.)	Oldroyd	1952
	---; savannah with vestiges of forest, May; 89	Ovazza et al.	1956
	---; forest, May, Aug.; 156	Doucet et al.	1958
	---; high forest, savannahs, June-Sept., peak July-Aug.; 226	Crosskey & Crosskey	1955
	---; frequent in rainy season, June-Sept.; 319	Itard et al.	1963
	---; Aug., forest, forest gallery; 324	Ovazza et al.	1959 (1960)
<i>HOLCOCERIA</i> <i>nobilis</i> Grünberg	---; ---; 230, 292, 364	Austen	1914
<i>LESNENS</i> <i>canescens</i> Surcouf	---; ---; 285	Travassos Santos Dias	1958b.
<i>LIMATA</i> <i>bedfordi</i> Oldroyd	---; Jan.-Feb.; 322	Oldroyd	1954
<i>expensis</i> Wiedemann	---; Oct. and Nov.; 322	Oldroyd	1954
<i>facialis</i> Oldroyd	---; Nov., nocturnal; 322	Oldroyd	1954
<i>parafacialis</i> Oldroyd	---; Dec.; 322	Oldroyd	1957
<i>segrigi</i> Séguy	---; Mar.; 186	Oldroyd	1957
<i>tenuicornis</i> Macquaert	---; Sept., Oct.; 322	Oldroyd	1954

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>LINATA</i>			
<i>tinuicornis</i>	---; Oct.-Nov.; 322	Oldroyd	1954
<i>karooensis</i>			
Oldroyd			
<i>MELANOPANGONIA</i>			
<i>haustellata</i>	---; ---; 8	Enderlein	1931
var. <i>finabris</i>			
(Macquart)			
<i>MESOMYIA</i>			
<i>algoensis</i>	---; ---; 322	Oldroyd	1957
Oldroyd			
<i>anomalous</i>	---; Mar. 322	Oldroyd	1957
Oldroyd			
<i>apiformis</i>	---; Oct.-Nov., forested rivers: 230. (In isolated	Oldroyd	1957
<i>apiformis</i>	forested or wooded areas in savannahs outside the		
Neave	rain forest belt, tree-top flies)		
<i>apiformis</i>	---; Aug.-Sept.; 44. ---; ---; 61, 123, 226. (Mar.-	Oldroyd	1957
<i>cineta</i>	May in rain forest)		
Enderlein			
<i>argenteus</i>	---; ---; 322	Oldroyd	1957
Oldroyd			
<i>aurentiaca</i>	---; Nov.-Feb.; 322	Oldroyd	1957
Oldroyd			
<i>barnardi</i>	---; Dec.; 322	Oldroyd	1957
Oldroyd			
<i>callosus</i>	---; Dec.; 322	Oldroyd	1957
Ricardo			
<i>confluens</i>	---; ---; 322	Oldroyd	1957
Loew			
<i>constrictifrons</i>	---; ---; 322	Oldroyd	1957
Oldroyd			
<i>contrarius</i>	---; Nov.-Jan.; 322	Oldroyd	1957
Austen			
<i>coriarius</i>	---; Nov.; 322	Oldroyd	1957
Oldroyd			
<i>costata</i>	---; ---; 322. (Sept., Oct.)	Oldroyd	1957
(Loew)			
<i>cuneatus</i>	---; ---; 322	Oldroyd	1957
Loew			
<i>decora</i>	---; ---; 214	Travassos	
Macquart		Santos Dias	1958b.

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>MESOMYIA</i>			
<i>decora</i> <i>decora</i> Macquart	---; ---; 43, 56, 214, 297, 322. (Aug.-Oct., Mar.)	Oldroyd	1957
<i>decora</i> <i>schoutedeni</i> Bequaert	---; ---; 44, 227, 292, 364. (Aug.-Oct., Mar.)	Oldroyd	1957
<i>designatus</i> Oldroyd	---; Oct.-Mar.; 322	Oldroyd	1957
<i>divergens</i> Oldroyd	---; Nov.-Feb.; 322	Oldroyd	1957
<i>edentula</i> Wiedemann	---; Sept.-Nov.; 322	Oldroyd	1957
<i>fallax</i> (Austen)	---; ---; 44, 227	Bequaert	1930
<i>flavipes</i> Hine	---; Jan.; 322	Oldroyd	1957
<i>hirsuta</i> (Ricardo)	---; Nov.; 322	Oldroyd	1957
<i>longipennis</i> Séguy	---; ---; 186	Oldroyd	1957
<i>maroccanus</i> Bigot	---; ---; 211	Kröber	1925
<i>monticola</i> Neave	---; short grass on open plateau, Dec.; 230	Oldroyd	1957
<i>mosambicensis</i> Travassos Santos Dias	---; ---, 214, 322. (Nov.-Feb.)	Oldroyd	1957
<i>namaquina</i> Oldroyd	---; Sept.; 322	Oldroyd	1957
<i>riger</i> Séguy	---; Jan.-May; 186	Oldroyd	1957
<i>nigricans</i> Loew	---; ---; 322	Oldroyd	1957
<i>nyassicus</i> Enderlein	---; ---; 230	Mackerras	1955
	---; Dec.-Jan.; 364	Oldroyd	1957
<i>obsoleta</i> Oldroyd	---; ---; 322	Oldroyd	1957
<i>provincialis</i> Oldroyd	---; Oct.-Dec.; 322	Oldroyd	1957

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>MESOMYIA</i>			
<i>pulchripennis</i> Austen	---; Feb.; 163	Oldroyd	1957
<i>pusillus</i> Schiner	---; Oct.; 322	Oldroyd	1957
<i>redundus</i> Oldroyd	---; Feb.; 322	Oldroyd	1957
<i>seyrigi</i> Séguy	---; Apr.-May; 186	Oldroyd	1957
<i>singularis</i> Meigen	---; ---; 211	Surcouf	1921
<i>stannusi</i> Oldroyd	---; Oct.; 364	Oldroyd	1957
<i>turneri</i> Austen	---; Nov.; 322	Oldroyd	1957
<i>ÆTAPHARA</i>			
<i>gulosus</i> (Wiedemann)	---; ---; 322	Travassos Santos Dias	1958b.
<i>NEAVELLA</i>			
<i>albipectus</i> Bigot	---; ---; 9, 163, 186, 275, 364. (Distributed throughout the year)	Oldroyd	1954
<i>notopleuralis</i> Oldroyd	---; Dec.; 282	Oldroyd	1954
<i>producticornis</i> Austen	---; ---; 163, 214, 364. (Dec.-May)	Oldroyd	1954
<i>NOGERIA</i>			
<i>hastata</i> (Neave)	---; ---; 214	Travassos Santos Dias	1958b.
<i>inornata</i> (Austen)	---; common Apr.-June, frequent flowers; 44	Bequaert	1930
<i>mayombensis</i> Bequaert	---; ---; 44, 131, 254. (Common in rain forest in West Africa)	Bequaert	1930
<i>neavei</i> (Austen)	---; common in beginning of dry season; 44*	Bequaert	1930
	---; ---; 364	Travassos Santos Dias	1958b.
<i>schweizeri</i> (Austen)	---; ---; 44, 364. (Females bite man.)	Bequaert	1930
<i>semilivida</i> (Bigot)	---; ---; 44, 61, 156, 206, 254	Travassos Santos Dias	1958b.
	---; high forest; 226	Crosskey & Crosskey	1955

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS: ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>NUCERIA</i>			
<i>virgata</i> (Austen)	---; ---; 44	Bequaert	1930
<i>OCHROPS</i>			
<i>aegyptiacus</i> Kröber	---; ---; 96, 201	Efflatoun Bey	1930
<i>agrestis</i> Wiedemann	---; ---; 13, 96, 100, 273	Efflatoun Bey	1930
<i>agricola</i> Wiedemann	---; rare; 96	Efflatoun Bey	1930
<i>farinosus</i> Szilády	Mud on edges of salt lakes and marshy land; resting on semi-aquatic plants on the edges of salt lakes, June-Sept.; 96	Efflatoun Bey	1930
<i>kröberi</i> Surcouf	---; ---; 8	Larrousse	1923
<i>pulchellus</i> Loew	---; ---; 96	Efflatoun Bey	1930
<i>seurati</i> Surcouf	In damp sand near coast, in association with various Annelides and Crustaceans and feeding on <i>Talitrus</i> <i>locusta</i> ; ---; 8. ---; ---; 316	Surcouf	1924
<i>OLDROYDIELLA</i>			
<i>fallax</i> (Macquart)	---; ---; 322	Travassos Santos Dias	1958b.
<i>OMMATOSTERES</i>			
<i>bukamensis</i> (Bequaert)	---; ---; 44	Bequaert	1930
<i>dissimilis</i> (Ricardo)	---; ---; 322	Travassos Santos Dias	1958b.
<i>ORGIZOMYIA</i>			
<i>nigra</i> Séguy	---; ---; 186	Travassos Santos Dias	1958b.
<i>zigzag</i> Macquart	---; frequents rain forest, Nov.-May; 186°	Oldroyd	1957
<i>PALPOMIA</i>			
<i>acuminata</i> Enderlein	---; ---; 8	Enderlein	1931
<i>aethiopica</i> Thunberg	---; ---; 284	Kröber	1925
	---; ---; 322	Curson	1926
<i>alluaudi</i> Séguy	---; ---; 211	Kröber	1939

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PANGONIA</i>			
<i>angulata</i> Fabricius	---; ---; 284	Kröber	1925
<i>beckeri</i> Bezzi	---; ---; 54	Neave	1912
	---; ---; 100, 234	Kröber	1925
	---; ---; 163	Anderson	1924
<i>brevicornis</i> Kröber	---; ---; 211	Kröber	1939
<i>brichetti</i> Bezzi	---; ---; 100, 284	Kröber	1925
<i>brunipennis</i> Loew	---; ---; 322	Curson	1928
<i>bubbequa</i> Austen	---; ---; 227	Neave	1912
<i>caffra</i> Macquart	---; ---; 282	Kröber	1925
<i>carpenteri</i> Austen	---; ---; 364	Austen	1920a.
<i>comata</i> Austen	---; ---; 163	Austen	1912
<i>coreussi</i> Surcouf	---; ---; 211	Kröber	1939
<i>hisoria</i> Austen	---; ---; 14	Austen	1920a.
<i>elongata</i> Ricardo	---; ---; 44, 102, 163, 227, 364	Bequaert	1932
<i>fodiens</i> Austen	---; ---; 230	Neave	1912
<i>haustellatus</i> Fabricius	---; ---; 8, 316. ---; July; 211	Leclercq	1961
<i>haustellata</i> var. <i>bastargen-</i> <i>tata</i> Szilády	---; ---; 211	Kröber	1939
<i>haustellata</i> var. <i>fontinalis</i> Macquart	---; ---; 8	Kröber	1939
<i>haustellata</i> var. <i>medicargen-</i> <i>tata</i> Szilády	---; ---; 211	Kröber	1939

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PANGONIA</i>			
<i>haustellata</i> var. <i>tenuipalpis</i> Kröber	---; ---; 211	Kröber	1939
<i>lautissima</i> Austen	---; ---; 364	Austen	1920a.
<i>maculata</i> Fabricius	---; near water; 8°	Surcouf	1924
<i>magretti</i> Bezzi	---; abounds in the rain; 13	Buxton	1955
	---; ---; 54	Neave	1912
	---; ---; 100, 214, 364	Séguy	1934
	---; ---; 163	Anderson	1924
<i>marginata</i> Meigen	---; ---; 8, 211, 316	Kröber	1925
<i>mauritana</i> L.	---; ---; 8, 316	Kröber	1939
<i>mauritana</i> var. <i>acuminata</i> End.	---; ---; 8	Kröber	1939
<i>mauritana</i> var. <i>aethiops</i> Szilády	---; ---; 211	Kröber	1939
<i>mauritana</i> var. <i>maroccan</i> Surcouf	---; ---; 211	Kröber	1939
<i>mesembrinoides</i> Surcouf	---, -- ; 364	Neave	1912
<i>oldii</i> Austen	---; abundant in forest, blood sucker, April thru July; 44°	Schwetz	1919
	---; ---; 227, 230	Neave	1912
<i>powelli</i> Séguy	---; ---; 211	Kröber	1939
<i>proboscidae</i> Fabricius	---; ---; 8, 211, 316	Kröber	1925
<i>proboscidae</i> var. <i>aethiops</i> Szilády	---; ---; 211	Kröber	1925
<i>ruppellii</i> Jaenricke	---; ---; 54	Neave	1912
	---; ---; 96, 102	Kröber	1925

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PANCONIA</i>			
<i>ruppellii</i> Jaennicke (cont.)	---; ---; 163 ---; savannahs, Oct.; 226	Anderson Crosskey & Crosskey	1924 1955
<i>seitziana</i> Enderlein	---; ---; 8	Kröber	1939
<i>surcoufi</i> Séguy	---; ---; 8, 211	Kröber	1939
<i>villeneuvei</i> Surcouf	---; ---; 211	Kröber	1939
<i>villosa</i> Szilády	---; ---; 316	Kröber	1939
<i>vittipennis</i> Kröber	---; ---; 316	Kröber	1939
<i>xanthozonaria</i> Séguy	---; ---; 115 ---; ---; 206	Taufflieb & Pinelle Séguy	1956 1934
<i>zonata</i> Walker	---; Apr.-July, bloodsucker; 44° ---; ---; 364	Schwetz Neave	1919a. 1912
<i>PARHAEMATOPOTA</i>			
<i>ocgnata</i> Grünberg	---; ---; 364	Neave	1912
<i>PAULIANOMYIA</i>			
<i>rufa</i> Oldroyd	---; Jan.; 186	Oldroyd	1957
<i>PHARA</i>			
<i>bivirgulata</i> Austen	---; ---; 322	Travassos Santos Dias	1958b.
<i>bracteata</i> Austen	---; ---; 230, 292	Travassos Santos Dias	1958b.
<i>chrysopila</i> (Macquart)	---; ---; 230	Travassos Santos Dias	1958b.
<i>chryso stigma</i> (Wiedemann)	---; ---; 322	Travassos Santos Dias	1958b.
<i>crassipalpis</i> (Macquart)	---; ---; 322	Travassos Santos Dias	1958b.
<i>flavipes</i> (Macquart)	---; ---; 322	Travassos Santos Dias	1958b.

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PHARA</i>			
<i>fuscanipennis</i> (Macquart)	---; ---; 322	Travassos Santos Dias	1958b.
<i>melanopyga</i> (Wiedemann)	---; ---; 39, 322	Travassos Santos Dias	1958b.
<i>nobilis</i> (Wiedemann)	---; ---; 322	Travassos Santos Dias	1958b.
<i>quinquemaculata</i> (Austen)	---; ---; 322	Travassos Santos Dias	1958b.
<i>rubramarginata</i> (Macquart)	---; ---; 230, 292, 322, 344	Travassos Santos Dias	1958b.
<i>speciosa</i> (Austen)	---; ---; 364	Travassos Santos Dias	1958b.
<i>tumidifacies</i> Austen	---; ---; 322	Travassos Santos Dias	1958b.
<i>PHILOLICHE</i>			
<i>acutipalpis</i> Enderlein	---; ---; 44, 364. (Dec.-Apr.)	Oldroyd	1957
<i>adjuncta</i> Walker	---; ---; 322. (Oct.-Dec.)	Oldroyd	1957
<i>aethiopica</i> Thunberg	---; ---; 322	Curson	1928
<i>aethiopica</i> <i>aethiopica</i> Thunberg	---; Oct.-May, probably two broods in Oct.-Dec. and Mar.-May; 322	Oldroyd	1957
<i>aethiopica</i> <i>rondanii</i> Thunberg	---; ---; 292, 322. (Oct.-May, probably two broods in Oct.-Dec. and Mar.-May)	Oldroyd	1957
<i>albicinctus</i> Austen	---; Nov.; 322	Oldroyd	1957
<i>alternans</i> Austen	---; Dec.-Feb.; 322	Oldroyd	1957
<i>angulata</i> Fabricius	---; Sept.-Nov.; 322	Oldroyd	1957
<i>armiger</i> Oldroyd	---; May; 227	Oldroyd	1957
<i>atricornis</i> Wiedemann	---; ---; 322. (Sept.-Mar.)	Oldroyd	1957
<i>caricornis</i> Austen	---; ---; 44, 364. (Apr.)	Oldroyd	1957

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>philosophe</i> <i>basalis</i> Oldroyd	---; Nov.; 322	Oldroyd	1957
<i>beckeri</i> <i>beckeri</i> Bezzi	---; ---; 100, 163, 284. (Mar.-June)	Oldroyd	1957
<i>beckeri</i> <i>discoars</i> Austen	---; ---; 14	Oldroyd	1957
<i>beckeri</i> <i>littoralis</i> Oldroyd	---; Mar.-June; 163	Oldroyd	1957
<i>bivirgulata</i> Austen	---; Dec.; 322	Oldroyd	1957
<i>crassirhyncha</i> Bigot	---; ---; 322	Oldroyd	1957
<i>embolostethus</i> Bezzi	---; ---; 102	Oldroyd	1957
<i>erinckii</i> Oldroyd	---; Dec.; 322	Oldroyd	1957
<i>buboequa</i> Austen	---; ---; 227, 230, 292. (Apr., May)	Oldroyd	1957
<i>lukarensis</i> (Bequaert)	---; in wooded savannah, July-Sept.; 44	Oldroyd	1957
<i>affinis</i> Macquart	---; ---; 39, 322. (Dec.)	Oldroyd	1957
<i>andidolombatus</i> Austen	---; ---; 14, 364. (Apr.-May)	Oldroyd	1957
<i>argyrenaria</i> Austen	---; Apr.-June; 364	Oldroyd	1957
<i>argyrenaria</i> Macquart	---; ---; 230, 364. (Oct.-Dec.)	Oldroyd	1957
<i>argyrostigma</i> Wiedemann	---; ---; 322	Oldroyd	1957
<i>argyrostigma</i> form <i>albipennis</i> Enterlein	---; ---; 322	Oldroyd	1957
<i>serena</i> Austen	---; May; 163	Oldroyd	1957

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PHILOLICHE</i>			
<i>compactus</i> Austen	---; ---; 227, 292, 362. (Dec.-May, frequents banks of rivers in rather heavily-wooded low-lying country)	Oldroyd	1957
	---; ---; 364	Lamerton	1962
<i>concitans</i> Austen	---; Sept.-Nov.; 226	Oldroyd	1957
<i>crassipalpis</i> Macquart	---; Nov.; 322	Oldroyd	1957
<i>cunhai</i> Travassos Santos Dias	---; ---; 322	Travassos Santos Dias	1958b.
<i>discolorata</i> Enderlein	---; ---; 14, 364	Oldroyd	1957
<i>dissimilis</i> Ricardo	---; ---; 322	Oldroyd	1957
<i>distincta</i> <i>distincta</i> Ricardo	---; ---; 44, 163, 284. ---; Oct.-Nov.; 102. (Apr.- May)	Oldroyd	1957
<i>distincta</i> <i>neavei</i> Austen	---; ---; 44, 163, 364. (Apr.-May)	Oldroyd	1957
<i>dorsalis</i> Latreille	---; ---; 186	Oldroyd	1957
<i>elegans</i> Bigot	---; ---; 322	Oldroyd	1957
<i>elongata</i> Ricardo	---; ---; 44, 163, 227, 364	Oldroyd	1957
<i>flavipes</i> Macquart	---; ---; 322. (Jan.)	Oldroyd	1957
<i>foetens</i> Austen	---; ---; 44, 214, 227, 230. (Mar.-Apr.)	Oldroyd	1957
	---; ---; 364	Lamerton	1962
<i>formosa</i> Austen	---; Sept.-Dec.; 322	Oldroyd	1957
<i>fuscipennis</i> Macquart	---; Jan.-Feb.; 322	Oldroyd	1957
<i>fuscineervis</i> Austen	---; ---; 322	Oldroyd	1957
<i>gulosus</i> Wiedemann	---; Oct.-Nov.; 322	Oldroyd	1957

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PHILOCLIPHE</i> <i>graxoti</i> Surcouf	---; equatorial rain forest; 44. ---; ---; 61, 111, 131, 226. (Most months of year, perhaps Aug.-Oct., canopy species)	Oldroyd	1957
<i>hastata</i> Austen	---; ---; 214	Oldroyd	1957
	---; ---; 364	Lamerton	1962
<i>infusca</i> Austen	---; ---; 44	Bequaert	1930
<i>ingrata</i> Oldroyd	---; Sept.-Oct.; 322	Oldroyd	1957
<i>inornata</i> Austen	---; May-Sept.; 44	Oldroyd	1957
<i>lateralis</i> Fabricius	---; Sept.-Dec.; 322	Oldroyd	1957
<i>lautissima</i> Austen	---; Apr.; 364	Oldroyd	1957
<i>leucomelas</i> Wiedemann	---; ---; 322	Oldroyd	1957
<i>lineatithorax</i> Austen	---; Aug.; 227	Oldroyd	1957
<i>magretti</i> Bezzi	---; ---; 13, 100, 163, 226, 284. (Nov.-Apr, June, Aug., in flat country with seasonal swamps, sometimes very annoying, sometimes bites)	Oldroyd	1957
	---; ---; 214, 364	Travassos Santos Dias	1958b.
<i>makueni</i> Oldroyd	---; ---; 163, 364. (Jan.-Sept.)	Oldroyd	1957
<i>malindensis</i> Oldroyd	---; Mar.; 163	Oldroyd	1957
<i>medialis</i> Oldroyd	---; ---; 214, 292. (Feb.-Mar.)	Oldroyd	1957
<i>melanopyga</i> Wiedemann	---; ---; 39, 322. (Oct.-Dec.)	Oldroyd	1957
<i>merstatti</i> Enderlein	---; Oct.-May; 364	Oldroyd	1957
<i>nigellensis</i> Enderlein	---; Apr.; 364	Oldroyd	1957
<i>notabilis</i> Wiedemann	---; ---; 322	Oldroyd	1957

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PHILOLICHE</i>			
<i>obscura</i> Ricardo	---; Nov.; 230	Oldroyd	1957
<i>oldii</i> (Austen)	---; ---; 44, 230, 292	Bequaert	1930
<i>ovambo</i> Oldroyd	---; Feb.; 56	Oldroyd	1957
<i>pennata</i> Oldroyd	---; Nov.; 186	Oldroyd	1957
<i>praeterita</i> Oldroyd	---; ---; 322	Oldroyd	1957
<i>quinquemaculata</i> Austen	---; ---; 322. (Nov.)	Oldroyd	1957
<i>ramulifera</i> Loew	---; ---; 322	Oldroyd	1957
<i>rodhaini</i> Bequaert	---; ---; 44. ---; Oct.-Nov.; 61	Oldroyd	1957
<i>rostrata</i> Linnaeus	---; Sept.-Dec.; 322	Oldroyd	1957
<i>rostrata</i> <i>bushmani</i> Oldroyd	---; Sept.-Dec.; 322	Oldroyd	1957
<i>rubromarginata</i> Macquart	---; ---; 230, 292, 322. (Oct.-Dec.)	Oldroyd	1957
<i>ruppellii</i> Jaenicke	---; ---; 13, 102, 163. ---; vegetation near water; 320. (May-June)	Oldroyd	1957
<i>sagittaria</i> Surcouf	---; Jan.-May; 163	Oldroyd	1957
<i>schmetzi</i> Austen	---; ---; 44, 364. (May-June)	Oldroyd	1957
<i>semilivida</i> Bigot	---; ---; 44, 61, 115, 156, 226, 254. (Forest belts of Guinea Coast, Nov.-Dec.)	Oldroyd	1957
<i>sener</i> Enderlein	---; ---; 364	Oldroyd	1957
<i>silverlocki</i> Austen	---; ---; 214, 227, 230, 292, 322. (Dec.-May)	Oldroyd	1957
<i>simillima</i> Enderlein	---; ---; 364. (Apr.-July)	Oldroyd	1957

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PHILOLICHE</i>			
<i>speciosa</i> Austen	---; Dec.-Apr.; 364	Oldroyd	1957
<i>speciosa</i> <i>bicingulata</i> Oldroyd	---; Oct.-Nov.; 292	Oldroyd	1957
<i>speciosa</i> <i>bracteata</i> Austen	---; ---; 44, 230, 292. (Oct.-Dec.)	Oldroyd	1957
<i>spiloptera</i> Wiedemann	---; Aug.-Oct.; 322	Oldroyd	1957
<i>suavis</i> Loew	---; ---; 322. (Jan.)	Oldroyd	1957
<i>subfascia</i> Walker	---; ---; 322. (Nov.-Feb.)	Oldroyd	1957
<i>tertiomaculata</i> Oldroyd	---; ---; 322	Oldroyd	1957
<i>tumidifascies</i> Austen	---; Jan.; 322	Oldroyd	1957
<i>virgata</i> Austen	---; Apr.-May; 44	Oldroyd	1957
<i>zonata</i> Walker	---; ---; 43, 214, 285, 292. (Mar., June)	Oldroyd	1957
	---; ---; 44*	Schwetz	1919a.
<i>zonata</i> form <i>infusca</i> Austen	---; Apr.-May, Sept.; 44	Oldroyd	1957
<i>PRONOPE</i>			
<i>flavipes</i> Hine	---; ---; 322	Hine	1923
<i>nigricans</i> Loew	---; ---; 64	Mackerras	1955
<i>RHIGIGLOSSA</i>			
<i>dentula</i> (Wiedemann)	---; ---; 322	Travassos Santos Dias	1958b.
<i>nigricans</i> (Ricardo)	---; ---; 322	Travassos Santos Dias	1958b.
<i>testacea</i> Wiedemann	---; ---; 322	Mackerras	1955
<i>RHINOMYIA</i>			
<i>perpallens</i> Austen	---; ---; 163	Anderson	1924

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>RHINOMYZA</i>			
<i>concinna</i> Austen	---; ---; 227, 230	Neave	1912
<i>denticornis</i> Fabricius	---; ---; 322	Curson	1928
<i>fenestrata</i> Séguy	---; Dec.; 186	Séguy	1934
<i>innotata</i> Karsch	---; ---; 227, 230°, 364	Neave	1912
<i>perfulens</i> Austen	---; ---; 320°	Neave	1912
<i>stigmatica</i> Séguy	---; ---; 186	Séguy	1934
<i>stimulans</i> Austen	---; ---; 123	Simpson	1914
	---; ---; 226	Simpson	1912
	---; ---; 279	Simpson	1913
<i>umbraticola</i> Austen	---; ---; 221	Neave	1912
<i>RHINOMYZOPSIS</i>			
<i>longipennis</i> Séguy	---; ---; 186	Travassos Santos Dias	1958b.
<i>SCAPTIA</i>			
<i>barbata</i> (Linnaeus)	---; ---; 322	Travassos Santos Dias	1958b.
<i>fulvifascia</i> (Walker)	---; ---; 322	Travassos Santos Dias	1958b.
<i>SILVIUS</i>			
<i>alpinus</i> Meigen	---; ---; 8, 211	Kröber	1939
<i>apiformis</i> Edwards	---; Oct.; 230	Neave	1915
<i>appendiculatus</i> Macquart	---; ---; 8	Enderlein	1931
<i>decepiens</i> Loew	---; ---; 43, 292, 322	Austen	1912
<i>fallax</i> Austen	---; ---; 227	Austen	1912
	---; ---; 227°	Neave	1912
<i>innotatus</i> Karsch	---; ---; 364	Morstatt	1913

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>STELVIA</i> <i>maculosa</i> Bigot	---; ---; 211	Kröber	1939
<i>monticola</i> Edwards	---; Dec.; 230	Neave	1915
<i>agrestis</i> Karsch	---; ---; 364	Morstatt	1913
<i>singularis</i> Meigen	---; ---; 211	Kröber	1925
<i>vitula</i> Fabricius	---; ---; 211	Kröber	1939
<i>STENOCEPHALA</i> <i>promelas</i> Oldroyd	---; in rainy season; 61	Oldroyd	1957
<i>infusata</i> Oldroyd	---; June; 13	Oldroyd	1957
<i>lambornii</i> Austen	Rot holes in trees; ---; 230	Oldroyd	1957
<i>natalensis</i> Oldroyd	---; Oct.; 322	Oldroyd	1957
<i>secunda</i> Austen	Rot holes in trees; ---; 230	Oldroyd	1957
<i>STENOPHARA</i> <i>distincta</i> Ricardo	---; Apr.; 364	Chapman	1960
<i>redini</i> (Bequaert)	---; ---; 44 ---; forest zone; 319	Bequaert Itard et al.	1930 1963
<i>acnata</i> Walker	---; ---; 44, 214, 227, 230, 284, 285 ---; Apr.; 364	Travassos Santos Dias Chapman	1958b. 1960
<i>STIPOTERICIDA</i> <i>shopardii</i> (Surcouf)	---; Mar.; 186	Séguy	1949
<i>longirostris</i> Séguy	---; Oct.; 186	Séguy	1949
<i>nebulosa</i> Séguy	---; ---; 186	Séguy	1949
<i>STUCANEPHOTA</i> <i>sp.</i> Oldroyd	---; in rock crevice; 322	Oldroyd	1962

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>STUCKENBERGINA</i> <i>callaxi</i> Oldroyd	---; ---; 322	Oldroyd	1962
<i>STYPORRHAMPHIS</i> <i>barbarus</i> Coquillette	---; ---; 8, 211, 319	Kröber	1939
<i>SUBPANGONIA</i> <i>ellenbergeri</i> Séguy	---; ---; 115	Taufflieb & Finelle	1956
<i>grahamii</i> Austen	---; ---; 123	Simpson	1914
	---; high forest, June; 226	Crosskey & Crosskey	1955
<i>gravoti</i> Surcouf	---; ---; 44, 61, 206	Bequaert	1930
	---; ---; 115	Taufflieb & Finelle	1956
	---; ---; 123	Travassos Santos Dias	1958b.
	---; June, high forest and savannah; 226	Crosskey & Crosskey	1955
<i>SURCOUFIA</i> <i>barbata</i> Bigot	---; ---; 8	Kröber	1928
	---; ---; 211, 316	Kröber	1939
<i>paradoxa</i> Kröber	---; ---; 211, 316	Mackerras	1955
<i>SZILADYNUS</i> <i>decorus</i> Loew	---; ---; 8	Kröber	1939
<i>laticornis</i> Enderlein	---; ---; 8	Enderlein	1931
<i>macularis</i> Fabricius	---; ---; 13, 211	Kröber	1939
<i>vittatus</i> Fabricius	---; ---; 8, 211	Kröber	1939
<i>TABANOCELLA</i> <i>alveolata</i> Surcouf	---; Oct.; 186	Oldroyd	1957
<i>aurea</i> Oldroyd	---; ---; 186	Oldroyd	1957
<i>bilineata</i> Oldroyd	---; Dec.; 322	Oldroyd	1957

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANOCELLA</i>			
<i>concinna</i> Austen	---; ---; 44, 214, 292, 364. (Oct.-Apr.)	Oldroyd	1957
	---; in forest gallery at dusk; 227. ---; ---; 230	Bequaert	1930
<i>denticornis</i> Wiedemann	---; ---; 292, 322	Oldroyd	1957
	---; ---; 322°	Tinley	1964
<i>denticornis</i> <i>denticornis</i> (Wiedemann)	---; ---; 214, 230, 292, 322	Travassos Santos Dias	1958b.
<i>denticornis</i> form <i>natalensis</i> Oldroyd	---; ---; 230, 322	Travassos Santos Dias	1958
<i>fenestrata</i> Séguy	---; Nov.-Dec.; 186	Oldroyd	1957
<i>immaculata</i> Oldroyd	---; Feb.; 322	Oldroyd	1957
<i>innotata</i> (Karsch)	---; ---; 44, 227, 364. (Female bites man, male nocturnal, Sept.-May.)	Oldroyd	1957
	---; bites man after sunset; 230°	Bequaert	1930
<i>longirostris</i> Bigot	---; Dec., May, Aug.; 186	Oldroyd	1957
<i>macrorhyncha</i> Séguy	---; ---; 131	Travassos Santos Dias	1958b.
<i>maculata</i> Surcouf	---; Dec.; 186	Oldroyd	1957
<i>metallica</i> Oldroyd	---; ---; 186	Oldroyd	1957
<i>mordosa</i> Austen	---; Nov., active at dusk; 186°	Oldroyd	1957
<i>oldroydi</i> Grenier & Rageau	---; July-Dec., forest near stream; 61	Oldroyd	1957
<i>perpulera</i> Austen	---; ---; 44, 162. ---; crepuscular; 320°. (Attacks man during active hours, bites freely, Feb.-May)	Oldroyd	1957
	---; forest gallery. May; 319	Itard et al.	1963
	---; plantation on forest edge; 320	Haddow	1952
<i>praestabilis</i> (Grünberg)	---; high forest; 226	Crosskey & Crosskey	1955

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANOCELLA</i>			
<i>schoutedeni</i> Fain	---; ---; 44. ---; forests near streams; 61	Oldroyd	1957
	---; high forests; 226	Crosskey & Crosskey	1955
<i>scirpea</i> Oldroyd	---; Nov., Dec.; 186	Oldroyd	1957
<i>seyrigi</i> Séguy	---; Jan.; 186	Oldroyd	1957
<i>simpliocornis</i> Austen	---; Oct.-Nov.; 186	Oldroyd	1957
<i>sinuata</i> Oldroyd	---; ---; 186	Oldroyd	1957
<i>stigmatana</i> Séguy	---; Feb.; 186	Oldroyd	1957
<i>stimulans</i> (Austen)	---; rain forest; 44, 275. ---; forest near stream, aggressive; 61°. ---; sand banks in area where there is thick bush; 226°. (Crepuscular, Oct.-May)	Oldroyd	1957
	---; ---; 115	Bequaert	1932
	---; ---; 123, 292	B. ?	1930
	---; forest, May, July; 156	Dolet et al.	1958
	---; forest zone; 206	Taufflieb & Finelle	1956
	---; July, mangrove, high forest, savannah; 226	Crosskey & Crosskey	1955
	---; dry season; 319	Itard et al.	1963
<i>stuckenbergi</i> Oldroyd	---; Jan.; 186	Oldroyd	1957
<i>thoracica</i> Séguy	---; Jan., coastal forest; 186	Oldroyd	1957
<i>umbraficola</i> (Austen)	---; dense forest; 44, 227. (Prefers deepest shade of forest patches, May, Aug.-Sept.)	Oldroyd	1957
<i>zoulouensis</i> Ricardo	---; ---; 299, 322. (Jan.)	Oldroyd	1957
<i>TABANOTELUM</i>			
<i>jactum</i> Oldroyd	---; Dec.-Jan.; 186	Oldroyd	1954
<i>TABANUS</i>			
<i>accensus</i> Austen	---; ---; 96	Bodenheimer & Theodor	1929

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>aegyptiacus</i> Kröber	---; ---; 96	Kröber	1939
<i>aeneus</i> Surcouf	---; ---; 61	Oldroyd	1954
	Swamps in dense forest; ---; 226	Williams	1962
	---; Oct.-Dec., high forest; 226	Crosskey & Crosskey	1955
<i>africanus</i> Gray	---; ---; 14. ---; near river, Nov.-Apr.; 322	Bedford	1926
	---; ---; 44, 123, 284	Bequaert	1930
	---; ---; 54, 227	Neave	1912
	---; ---; 100, 102, 320	Ghidini	1938
	---; ---; 163	Anderson	1913
	---; Nov.-May; 230	Neave	1915
	---; districts where streams are prevalent; 364	Aders	1917
<i>agrestis</i> Wiedemann	---; ---; 96	Kröber	1939
	---; ---; 176, 284	Kröber	1924
<i>agrestis</i> var. <i>rufipes</i> Szilády	---; ---; 96	Kröber	1925
<i>agricola</i> Wiedemann	---; ---; 8, 176, 211, 284, 316	Kröber	1924
	---; ---; 96	Kröber	1939
<i>agricola</i> var. <i>griseocens</i> Szilády	---; ---; 176	Kröber	1939
<i>agulus</i> Surcouf	---; ---; 117	Surcouf	1909
<i>albicans</i> Macquart	---; ---; 96, 176, 273, 284	Kröber	1924
<i>albifacies</i> Loew	---; ---; 8, 96	Efflatoun Bey	1930
	---; ---; 211, 316	Kröber	1924
<i>albifrons</i> Szilády	---; ---; 8, 316	Kröber	1939
	---; ---; 21.	Kröber	1924
<i>albolinea</i> Walker	---; ---; 322. (Jan.)	Oldroyd	1954

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>albipilus</i> Walker	---; ---; 54, 320	Neave	1912
	---; ---; 117, 226	Surcouf	1909
	---; ---; 123	Simpson	1918
	---; ---; 163	Lewis	1931
<i>albipectus</i> Bigot	---; ---; 9, 186, 275	Austen	1920
	---; sandy bank near seashore; 364	Aders	1917
<i>albitibialis</i> Macquart	---; Sept.-Jan.; 186	Oldroyd	1954
<i>albostrigatus</i> Ricardo	---; ---; 322	Surcouf	1909
<i>alexandrinus</i> Wiedemann	---; ---; 8, 96, 176, 316	Kröber	1939
	---; ---; 211, 322	Kröber	1924
<i>algericus</i> Enderlein	---; ---; 8	Kröber	1939
<i>algerius</i> Macquart	---; ---; 8	Kröber	1939
	---; ---; 211, 316	Kröber	1924
<i>algerius</i> var. <i>tunisiensis</i> Surcouf	---; ---; 8, 316	Kröber	1939
<i>amblychromus</i> Speiser	---; ---; 364	Neave	1912
<i>anthracinus</i> Meigen	---; ---; 8, 211, 316	Kröber	1924
<i>antinorii</i> Ghidini	---; ---; 359	Ghidini	1938
<i>arialis</i> Enderlein	---; ---; 8	Kröber	1939
<i>aquilis</i> Surcouf	---; ---; 117	Oldroyd	1954
<i>aquilus</i> Surcouf	---; ---; 117	Surcouf	1909
<i>arabicus</i> Macquart	---; ---; 282	Kröber	1925
<i>argenteus</i> Surcouf	---; ---; 14, 227. (Forest species, appear to be in northwest in first half of year, in south in second half)	Oldroyd	1954

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>argenteus</i>	---; ---; 44, 83, 115, 156, 206, 322	Bequaert	1930
Surcouf (cont.)	---; May, forest, forest gallery near river; 131	Ovazza et al.	1959
	---; May, mangrove, high forest; 226	Crosskey & Crosskey	1955
	---; ---; 279	Simpson	1913
	---; forest, all year, Mar.-June; 319	Itard et al.	1963
<i>argenteus</i> form <i>bellinzi</i> Austen	---; rainy season; 206	Taufflieb & Finelle	1956
<i>argenteus</i> form <i>williamsi</i> Austen	---; ---; 115, 206, 319	Taufflieb & Finelle	1956
	---; Mar.; 15%	Doucet et al.	1958
<i>ater</i> Rocsi	---; ---; 8, 316	Kröber	1925
<i>atrimanus</i> Loew	---; ---; 14	Travassos Santos Dias	1958
	---; ---; 44, 163, 214, 227, 292, 322. ---; hilly country and riverine and open pastures; 364. (Sept.- May or June)	Oldroyd	1954
	---; ---; 115	Galliard	1933
	In river among roots; wooded streams, Nov.-Dec., 230	Neave	1915
	---; ---; 319	Oldroyd	1957
<i>atripes</i> Van der Wulp	---; ---; 111, 206	Surcouf	1909
<i>auripunctatus</i> Macquart	---; ---; 8, 316	Kröber	1939
<i>attractus</i> L.	---; ---; 8, 211. (larva in swamps)	Kröber	1924
	---; tree trunks; 96	Efflatoun Bey	1930
	---; July; 211	Leclercq	1961
<i>attractus</i> <i>brunneus</i> Szilady	---; ---; 8, 26, 211	Leclercq	1961
<i>attractus</i> Speiser	---; Apr.; 364	Oldroyd	1952

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>bantuana</i> Oldroyd	---; Aug.; 226	Oldroyd	1952
<i>barbarus</i> Coquebert	---; 8, 216. ---; July; 211	Leclercq	1961
<i>barclayi</i> Austen	---; ---; 214, 227, 230, 322. (Dec.-Mar.)	Oldroyd	1954
<i>bequaertianus</i> Main	---; Apr.; 44	Oldroyd	1954
<i>besti</i> Surcouf	---; ---; 44, 117, 175, 320	Bequaert	1930
	---; ---; 61	Harant & Brygoo	1949
	---; ---; 123	Simpson	1914
	---; forest, Jan., May, July; 156	Doucet et al.	1958
	---; Apr.-May, Dec., mangrove, high forest; 226	Crosskey & Crosskey	1955
	Swamps in dense forest; ---; 226	Williams	1962
	---; ---; 279	Simpson	1913
	---; forests, forest galleries; 319	Itard et al.	1963
<i>besti</i> var. <i>arbuckiei</i> Austen	---; ---; 89	Quélennec	1962
	---; ---; 115	Taufflieb & Finelle	1956
	---; ---; 123, 279. ---; abundant in forests and clearings or along paths through virgin rain forests, Aug.-Oct.; 175. (Naturally infected with intestinal flagellate, <i>Crythidia</i>)	Bequaert	1930
	---; May; 131	Ovazza et al.	1959
	---; forest, Jan., May, July; 156	Doucet et al.	1958
	---; ---; 226. (All year)	Oldroyd	1954
<i>besti</i> <i>besti</i> Surcouf	---; ---; 13, 44, 117, 320. (All year round)	Oldroyd	1954
	---; present all year; 115, 206, 319	Taufflieb & Finelle	1956
	---; May, near river; 131	Ovazza et al.	1959
<i>bifarius</i> Loew	---; ---; 8	Kröber	1924
	---; ---; 211, 316	Kröber	1939

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>biguttatus</i>	---; ---; 13, 44, 201	Bequaert	1930
Wiedemann	---; ---, 14	Travassos Santos Dias	1958
	---; end of dry season; 71. ---; ---; 206	Taufllieb & Finelle	1956
	---; Apr.-Dec.; 89	Quélennec	1962
	---; ---; 96	Philip	1948
	---; Aug., river valley; 102	Ovazza	1956
	---; ---; 112	Holstein	1957
	---; ---; 132	Tendeiro	1947
	---; May; 156	Doucet et al.	1958
	On grasses and reeds at water's edge; near water, on small trees; 163. ---; ---; 227, 320	Neave	1912
	Mud cylinders; ---; 163, 230	Tremlett	1964
	---; ---; 214, 284	Ghidini	1938
	---; high forest, savannahs, Mar., May, Aug., Oct.- Dec.; 226	Crosskey & Crosskey	1955
	Sandy river beds; Nov.; 230	Neave	1915
	---; ---; 267. (All year round)	Oldroyd	1954
	---; ---; 279	Simpson	1913
	---; all year; 319	Itard et al.	1963
	---; Nov.-Mar.; 322	Bedford	1926
	---; ---; 322°	Tinley	1964
	---; Feb.-Sept.; 324	Ovazza et al.	1959 (1960)
	---; Oct.; 324	Ovazza et al.	1956
	---; tree trunks near grazing grounds, in stables; 364	Aders	1917
	---; Apr.-May, Sept.-Dec.; 364	Chapman	1960
<i>biguttatus</i>	---; ---; 273, 322	Krüber	1924
var. <i>vilipes</i> Macquart			

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>biguttatus</i>	---; ---; 13, 61	Kröber	1924
var. <i>croceus</i>			
Surcouf	---; ---; 14, 113, 123, 226	Surcouf	1909
	---; ---; 322	Bedford	1926
<i>biguttatus</i>	---; ---; 225, 226, 273	Surcouf	1909
<i>unimaculatus</i>			
Macquart			
<i>billingtoni</i>	---; ---; 14, 89	Bequaert	1930
Newstead	---; forest areas; 44, 61, 226. (All year round)	Oldroyd	1954
	---; ---; 71	Taufflieb & Finelle	1956
	---; May, July, Sept., mangrove, high forest, savannah; 226	Crosskey & Crosskey	1955
	---; June-Aug.; 319	Itard et al.	1963
<i>boueti</i>	---; ---; 44, 89	Bequaert	1930
Surcouf	---; ---; 61	Harant & Brygoo	1949
	---; ---; 123, 156. (Mar.-July)	Oldroyd	1954
<i>bovinus</i>	---; ---; 8, 211, 322	Kröber	1939
Loew	---; ---; 176	Zanon	1923
<i>brodeni</i>	---; Sept.; 44. ---; June; 206. (Female takes refuge at bottom of well about six in the evening.)	Oldroyd	1954
Bequaert			
<i>bromius</i>	---; ---; 8. ---; July; 211	Leclercq	1961
Linnaeus			
<i>bromius</i>	---; ---; 8	Surcouf	1924
var. <i>flavofemoratus</i>	---; July; 211	Leclercq	1961
Strobl.			
<i>brucei</i>	---; edge of forest; 44 ---; ---; 227. ---; savannahs; 320	Bequaert	1930
Ricardo	---; ---; 132	Tendeiro	1947
<i>brumpti</i>	---; ---; 13, 226, 320. (Aug.-Oct.)	Oldroyd	1954
Surcouf	---; ---; 44	Surcouf	1909
	---; May; 131. ---; Sept.-Oct., rarely on man; 324*	Ovazza et al.	1959 (1960)
	---; ---; 131. (Zones of transitions and pure savannah)	Ovazza et al.	1959

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>brumpti</i> Surcouf (cont.)	---; savannah, July-Oct.; 226	Crosskey & Crosskey	1955
	---; in houses; 279	Simpson	1913
	---; July-Oct.; 319	Itard et al.	1963
<i>brunneicollis</i> Hine & Bequaert	---; Mar., canopy-feeding species; 44	Oldroyd	1954
	Deep forest; ---; 226	Williams	1962
<i>brumescens</i> Szilady	---; ---; 8	Surcouf	1924
	---; ---; 211	Kröber	1924
<i>camaronensis</i> Bigot	---; ---; 187	Surcouf	1909
<i>cambournei</i> Travassos Santos Dias	---; ---; 214	Travassos Santos Dias	1958b.
<i>camelarius</i> Austen	---, ---; 13. (Apr., May, Sept.)	Oldroyd	1954
<i>canaria</i> Enderlein	---; ---; 63	Kröber	1939
<i>canescens</i> Surcouf	---; ---; 44, 111	Surcouf	1909
<i>canipalpis</i> Bigot	---; ---; 176	Kröber	1925
<i>canofasciatus</i> Austen	---; highlands; 163. ---; ---; 364. (Jan.-Feb., forest species, readily bites man)	Oldroyd	1954
<i>caesus</i> Karsch	---; ---; 14, 41	Bequaert	1930
	---; ---; 61	Harant & Brygoo	1949
	---; ---; 111. (Attacks man, associated with water, crepuscular, all months)	Oldroyd	1954
	---; ---; 115	Bequaert	1932
	---; along lakes, rivers, swamps; 206. ---; crepus- cular; 319	Taufflieb & Pinelle	1956
	---; savannah, forest, rainy season; 319	Itard et al.	1963
<i>capensis</i> Wiedemann	---; ---; 225, 322	Surcouf	1909
<i>cereclus</i> Bigot	---; ---; 44	Surcouf	1909

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>chevalieri</i> Surcouf	---; ---; 13, 43, 44, 131, 156, 279, 322. (Sept.- Dec. in south, Jan.-Apr. in north)	Oldroyd	1954
	---; ---; 71	Ovazza & Taufflieb	1959
	---; savannah, Nov.-Dec.; 226	Crosskey & Crosskey	1955
	---; ---; 273	Surcouf	1909
	---; ---; 319	Itard et al.	1963
	---; savannah; 324	Ovazza et al.	1959 (1960)
<i>claripes</i> Ricardo	---; ---; 44	Bequaert	1930
<i>claritibialis</i> Ricardo	---; ---, 214	Surcouf	1909
	---; ---; 230, 364. (Dec.-Mar.)	Oldroyd	1954
<i>combustus</i> Bigot	---; ---; 44	Surcouf	1909
	---; ---; 123. (Apr.)	Oldroyd	1954
	---; Jan., Sept.; 156	Doucet et al.	1958
	---; high forest, Apr.; 226	Crosskey & Crosskey	1955
<i>conformis</i> Walker	---; Nov.; 14	Travaessos Santos Dias	1958
	---; ---; 44, 61, 117, 123, 175, 206, 226, 273, 279. (Forest and mountain grassland, all months of the year.)	Oldroyd	1954
	---; May; 131	Ovazza et al.	1959
	---; near canals, riverbanks, Jan.-Feb., July, Sept.; 156	Doucet et al.	1958
	---; Apr.-Feb., mangrove, high forest, savannah; 226	Crosskey & Crosskey	1955
	---; crepuscular or nocturnal activity; 321	Haddow & Corbet	1960
<i>congolensis</i> Ricardo	---; ---; 14, 206, 248, 267. ---; collected Dec.- Jan.; 44	Bequaert	1930
	---; forests; 61, 111. ---; ---; 320. (Mar.-Dec.)	Oldroyd	1954
	---; abundant; 61	Harant & Brygoo	1949

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS, ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>somaliensis</i> Ricardo (cont.)	---; ---; 115	Galliard	1933
	---; ---; 273	Surcouf	1909
	---; ---; 279	Simpson	1913
	---; all year, forests, forest galleries, savannahs, frequent at the end of rainy season and at the beginning of dry season Oct.-Jan.; 319	Itard et al.	1963
<i>coniformis</i> Ricardo	---; savannahs; 13, 44, 123. ---; ---; 214, 292. (July-Nov. in southeast, Feb.-June in north)	Oldroyd	1954
	---; ---; 14, 227, 364	Bequaert	1930
	---; very frequent during rainy season, 206	Taufflieb & Finelle	1956
	---; moderately open country, Oct.; 230	Neave	1915
	---; savannahs, dry season; 319	Itard et al.	1963
<i>conspicuus</i> Ricardo	---; ---; 13	Surcouf	1909
	---; ---; 163, 284. (Feb.-Oct.)	Oldroyd	1954
	---; ---; 364	Aders	1917
<i>copemani</i> Austen	---; ---; 115	Galliard	1933
	---; ---; 227, 230, 292. (Nov.-Mar.)	Oldroyd	1954
<i>corax</i> Loew	---; ---; 163	Anderson	1924
	---; wooded areas, Nov.-Jan.; 230	Neave	1915
	---; ---; 322	Oldroyd	1954
<i>coriari</i> Surcouf	---; ---; 100	Ferraro	1917
	---; Feb.; 102	Ghidini	1938
<i>coritiger</i> Meigen	---; ---; 8. ---; July; 211	Leclercq	1961
<i>cordigeroides</i> Surcouf	---; ---; 8	Larrousse	1923
<i>crocodilinus</i> Austen	---; ---; 13, 214, 227, 230, 292. (Aug.-Oct.)	Oldroyd	1954
	---; ---; 320	Neave	1912
<i>decorus</i> Loew	---; ---; 8	Kröber	1925
<i>denshami</i> Austen	---; ---; 13, 14, 44, 102, 163, 214, 227, 292, 320, 322. (Jan.-Apr. in north, Sept.-Dec. in south)	Oldroyd	1954

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>denhami</i> Austen (cont.)	---; ---; 54, 344. ---; Oct.-Nov.; 230	Neave	1915
<i>denticornis</i> Enderlein	---; ---; 8	Kröber	1939
<i>dilutius</i> Surcouf	---; ---; 115	Surcouf	1909
<i>disjunctus</i> Ricardo	---; ---; 44 ---; ---; 227	Surcouf Neave	1909 1912
<i>distinctus</i> Ricardo	---; ---; 14, 44, 227, 364. (Sept.-Feb.) ---; ---; 132 ---; drier country; 230	Oldroyd Tendeiro Neave	1954 1947 1915
<i>ditaeniatus</i> Macquart	---; abounds in the rain; 13 ---; ---; 44 ---; ---; 54, 227, 230, 320, 364 ---; ---; 71 ---; ---; 96, 176 ---; ---; 123 ---; ---; 163 ---; ---; 186 ---; ---; 226 ---; ---; 273, 322. ---; June; 284	Buxton Roubaud & Van Saceghem Neave Surcouf Kröber Simpson Anderson Bequaert Golding Chidini	1955 1916 1912 1909 1924 1918 1913 1930 1938 1938
<i>ditaeniatus</i> var. <i>bipunctatus</i> Van der Wulp	---; ---; 44, 273	Bequaert	1930
<i>diversus</i> Walker	---; ---; 322	Surcouf	1909
<i>diversus</i> Ricardo	---; enters house; 44. ---; ---; 227, 292. (July, Sept., Oct., Feb.) ---; ---; 230, 364	Oldroyd Bequaert	1954 1930
<i>diversus</i> var. <i>lufirensis</i> Bequaert	---; ---; 163	Anderson	1924

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY, DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>donaldsoni</i> Carter	---; ---; 61, 123. (Apr.-May)	Oldroyd	1954
	---; Apr.-May, mangrove 226	Crosskey & Crosskey	1955
<i>donnimpulatus</i> Macquart	---; ---; 8	Kröber	1928
<i>egberti</i> Schiner	---; ---; 96	Kröber	1925
<i>robustus</i> Pandazis	---; ---; 8	Kröber	1924
<i>fulvus</i> Oldroyd	---; June, July, Sept., Jan.; 44	Oldroyd	1954
<i>fulvipes</i> Szilády	---; ---; 8, 96	Kröber	1939
	---; ---; 176, 211, 284, 316	Kröber	1924
<i>fulvipes</i> var. <i>carinatus</i>	---; ---; 3	Kröber	1939
	---; ---; 316	Kröber	1925
<i>fasciatus</i> Fabricius	---; ---; 13, 89, 111, 226, 273, 320	Surcouf	1909
	---; common on board ships in river; 44. ---; ---; 175	Bequaert	1930
	---; all year, peak Apr., Nov.-Dec.; 61	Harant & Brygoo	1949
	---; ---; 123	Simpson	1918
	---; along river; 279	Simpson	1913
<i>fasciatus</i> var. <i>mixtus</i> Surcouf	---; ---; 44, 123, 320	Bequaert	1930
<i>fasciatus</i> var. <i>nigripes</i> Surcouf	---; ---; 44	Bequaert	1930
	---; ---; 115	Galliard	1933
<i>fasciatus</i> <i>niloticus</i> Austen	---; in savannas; 13, 131, 319. ---; ---; 89, 111, 117, 226, 320, 361	Bequaert	1930
	On <i>Pithecia stratiotes</i> ; ---; 13	King	1926
	---; ---; 54	Neave	1912
	---; ---; 163	Anderson	1924
<i>fulvipes</i> Oldroyd	---; ---; 123, 175, 226, 279. (Jan.-June, Oct.)	Oldroyd	1954
	---; June, Dec.; 156	Doucet et al.	1958

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>flavicoxa</i> Oldroyd (cont.)	---; high forest, Jan.-Mar.; 226	Crosskey & Crosskey	1955
	---; Feb., savanna; 273	Ovazza et al.	1956
<i>fragai</i> Travassos Santos Dias	---; ---; 214	Travassos Santos Dias	1958b.
<i>fraternus</i> Macquart	---; ---; 13, 100, 102. ---; Aug., Apr.; 364. (Sept.)	Oldroyd	1954
	---; May; 14	Travassos Santos Dias	1958
	---; ---; 44, 117, 273	Bequaert	1950
	---; ---; 163	Lumsden	1955
	---; ---; 214	Bedford	1926
	---; ---; 227	Neave	1912
	Mud cylinders; ---; 230	Lamborn	1938
	---; ---; 284, 322	Ghidini	1938
	---; ---; 320	Haddow & Corbet	1960
	---; ---; 364°	Aders	1917
<i>fulvianus</i> Loew	---; ---; 322	Surcouf	1909
<i>fulvus</i> Meigen	---; ---; 211	Kröber	1939
<i>fulvicapillus</i> Carter	---; ---; 44, 61, 115	Oldroyd	1954
	---; forest zone; 206	Taufflieb & Finelle	1956
<i>fuscipes</i> Ricardo	---; abounds in the rain; 13	Buxton	1955
	---; ---; 227, 320	Neave	1912
	In mud; Jan.; 230	Neave	1915
	---; ---; 292	Bedford	1926
	---; ---; 322	Surcouf	1909
<i>fuscipes</i> var. <i>oculipilus</i> Carter	---; ---; 322	Carter	1915

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>fabripennis</i> Oldroyd	---; ---; 123, 175, 226, 279. (Dec.-Sept.)	Oldroyd	1954
	---; Dec., large forest; 156	Ovazza et al.	1956
	---; Dec.-Jan., high forest; 226	Crosskey & Crosskey	1955
<i>macromegastus</i> Ricardo	---; ---; 44, 206, 320	Bequaert	1930
<i>pedicellatus</i> Surcouf	---; ---; 44	Bequaert	1930
<i>goleatus</i> Szilady	---; ---; 8	Kröber	1934
<i>grandisimus</i> Ricardo	---; ---; 61	Hanington	1922
	---; ---; 227, 230	Neave	1912
<i>gratus</i> Loew	---; ---; 13, 322	Surcouf	1909
	---; June, July, Nov.; 14	Travassos Santos Dias	1958
	---; ---; 44, 117	Bequaert	1930
	---; ---; 71, 206	Taufflieb & Finelle	1956
	---; ---; 89	Quélennec	1962
	---; ---; 96, 320. (Equatorial forest belt, all months)	Oldroyd	1954
	---; ---; 100, 284	Ghidini	1938
	---; Aug., Sept., Oct., banks of lakes, near thorny thickets, dry savannah, river valleys, very abundant during hot hours at end of rainy season and first two months of dry season; 102	Ovazza	1956
	---; savannah with thorny "meagres", river banks; 112	Holstein	1957 (1958)
	---; large forest gallery, Oct., Nov.; 112	Ovazza et al.	1956
	---; ---; 123	Simpson	1918
	---; ---; 132	Tendeiro	1947
	---; ---; 163	Anderson	1913
	---; ---; 214	Jones	1915
	---; savannahs, June, Oct.-Jan.; 226	Crosskey & Crosskey	1955

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>gratus</i> Loew (cont.)	---; ---; 227, 364	Neave	1912
	---; Aug.-Oct.; 230	Neave	1915
	---; savannah, all year; 319	Itard et al.	1963
	---; Mar.-Dec.; 324	Ovazza et al.	1959 (1960)
<i>griseicornis</i> Szilády	---; ---; 96, 176, 284	Kröber	1924
<i>guttatus</i>	Dried mud; ---; 230. ---; ---; 364	Potts	1937
<i>guineensis</i> (Wiedemann)	---; July-Aug.; 69	Quélenec	1962
<i>guyonae</i> Surcouf	---; ---; 8	Kröber	1939
<i>haimovitchae</i> Surcouf	---; ---; 186	Oldroyd	1954
<i>hamoni</i> Ovazza & Valade	---; June-Aug., on man at sunset and after nightfall; 324	Ovazza et al.	1959 (1960)
	---; savannah, June-July; 324*	Ovazza & Valade	1958 (1959)
<i>lanthimus</i> Surcouf	---; ---; 14, 44, 206, 279	Bequaert	1930
	---; ---; 61, 273. (Feb.-Oct.)	Oldroyd	1954
	---; ---; 123	Simpson	1914
	---; ---; 319	Itard et al.	1963
<i>imbecillus</i> Karsch	---; ---; 44, 361	Surcouf	1909
	---; ---; 364	Neave	1912
<i>impertinens</i> Oldroyd	---; Oct., Nov.; 322	Oldroyd	1954
<i>impurus</i> Karsch	---; ---; 163. ---; enters houses; 364. (Nov.-June)	Oldroyd	1954
<i>infestans</i> Macquart	---; ---; 8	Kröber	1939
<i>inhambanensis</i> Bertolini	---; ---; 214	Surcouf	1909

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; AL LT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>insignis</i> Loew	---; savannah with trees in river vall. Feb., Aug.- Sept., cedar forest; 102	Ovazza	1956
	---; Dec.; 131	Ovazza et al.	1959
	---; ---; 163	Lumsden	1955
	---; Nov.-Mar.; 230	Neave	1915
	---; ---; 320	Surcouf	1909
	---; ---; 322*	Tinley	1964
	---; June; 364	Chapman	1960
<i>insignis</i> <i>insignis</i> Loew	---; ---; 13, 44, 361, 363. ---; savannahs; 279, 322. (All months)	Oldroyd	1954
<i>insignis</i> form <i>neavei</i> Austen	---; swarms in the morning above forest canopy; 320	Corbet & Haddock	1962
	---; ---; 364	Lamerton	1962
<i>insignis</i> form <i>occidentalis</i> Oldroyd	---; ---; 13, 44, 361, 363. ---; savannahs; 279, 322	Oldroyd	1954
<i>insignis</i> form <i>velutinus</i> Surcouf	---; ---; 102, 163, 364	Oldroyd	1954
<i>intermedius</i> Egger	---; ---; 8, 96	Kröber	1939
<i>irroratus</i> Surcouf	---; ---; 44, 206, 279, 320	Bequaert	1930
	---; ---; 61	Harant & Brygoo	1949
	---; ---; 163	Anderson	1924
<i>ladini</i> Fain	---; ---; 44	Oldroyd	1954
<i>kingi</i> Austen	---; ---; 13	Oldroyd	1954
	---; ---; 96	Philip	1948
	---; ---; 102	Kröber	1924
<i>kingi</i> <i>nigritiformis</i> Austen	---; river valley, Sept., 102	Ovazza	1956
	---; ---; 163. (Jan.-Oct.)	Oldroyd	1954

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>kingsleyi</i> Ricardo	---; ---; 123, 175, 226, 279	Bequaert	1930
<i>kröberi</i> Surcouf	---; ---; 8, 316	Kröber	1939
<i>latiensis</i> Oldroyd	---; Nov.; 14	Travassos Santos Dias	1958
	---; Sept.; 44	Oldroyd	1954
<i>lacustris</i> Ghidini	---; Dec.; 102	Ghidini	1938
<i>laevifrons</i> Loew	---; ---; 322	Surcouf	1909
<i>latiocornis</i> Enderlein	---; ---; 8, 316	Kröber	1939
<i>latipes</i> Macquart	---; ---; 44, 112, 275, 324	Bequaert	1930
	---; ---; 226	Golding	1938
	---; ---; 320, 364	Neave	1912
<i>laverani</i> Surcouf	---; ---; 12, 44, 61, 117, 123, 163, 214. ---; Nov.; 230. (Nearly every month)	Oldroyd	1954
	---; Nov.; 14	Travassos Santos Dias	1958
	---; ---; 71, 206. (Present all year, frequent dur- ing rainy season)	Taufflieb & Finelle	1956
	---; ---; 131	Bequaert	1930
	---; little forest gallery, May; 156	Doucet et al.	1958
	---; high forest, savannah, May-June, Dec.; 226	Crosskey & Crosskey	1955
	---; in houses; 279	Simpson	1913
	---; Mar.-May; 319	Itard et al.	1963
	---; ---; 322*	Tinley	1964
	---; Mar.-July* 324*	Gvazza et al.	1959 (1960)
<i>leleupi</i> Austen	---; ---; 8, 211, 316	Kröber	1939
<i>lennirei</i> Surcouf	---; ---; 44	Bequaert	1928

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CABANUS</i>			
<i>leucostomus</i> Loew	---; ---; 13, 56, 61, 102, 227, 292, 320	Oldroyd	1954
	---; ---; 89	Quélennec	1962
	---; ---; 100	Ferraro	1917
	---; savannah with trees without forest gallery, Oct.; 100	Ovazza	1956
	---; ---; 163. ---; near rivers; 322	Bedford	1926
	---; Jan., Oct., savannah; 226	Crosskey & Crosskey	1955
	Cushions of moss in well-shaded areas, moist fallen leaves in drying stream beds; ---; 230	Lamborn	1938
	---; ---; 354	Lamerton	1962
<i>liventipes</i> Surcouf	---; ---; 214, 227, 230, 292, 364. (Extremely common in the <i>Berlinia-Brachystegia</i> woods, and in associated riverine forest, Dec.-Mar.)	Oldroyd	1954
<i>longinquus</i> Oldroyd	---; ---; 127, 279. (Nov.-June)	Oldroyd	1954
	---; Oct.-Mar., high forest, savannah; 226	Crosskey & Crosskey	1955
<i>longitudinalis</i> Loew	---; ---; 364	Morstatt	1913
<i>lubatuerensis</i> Bequaert	---; ---; 44, 61	Oldroyd	1954
	---; July, Dec.; 156	Doucet et al.	1958
	---; forest; 156	Ovazza et al.	1956
	---; forest, 206	Taufflieb & Finelle	1956
	---; high forest, Jan.-May, Nov.; 226	Crosskey & Crosskey	1955
<i>lufirenensis</i> Bequaert	---; ---; 44	Bequaert	1930
	---; ---; 214, 227, 230, 192. (Sept.-Jan.)	Oldroyd	1954
<i>lunatus</i> Fabricius	---; ---; 8, 96, 316. ---; July; 211	Leclercq	1961
<i>lunatus</i> var. <i>algericus</i> Thunberg	---; ---; 96	Philip	1948
<i>macronus</i> Austen	---; ---; 163	Anderson	1924
<i>macularis</i> Fabricius	---; ---; 211	Kröber	1925

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>maculatus</i> Macquart	---; ---; 44, 100, 153, 214, 227, 284, 322, 364	Bequaert	1930
	---; Feb.; 102	Ghidini	1938
	---; ---; 123	Wosnam	1914
	---; ---; 206	Bedford	1926
	In mud in a partially dried up stream; ---; 230	Neave	1915
<i>mailloti</i> Ovazza & Taufflieb	---; Nov., edge of plateaux; 206	Ovazza & Taufflieb	1959
<i>mallorcanus</i> Enderlein	---; ---; 63	Krüber	1939
<i>marmorosus</i> Surcouf	---; ---; 44	Surcouf	1909
	---; ---; 61	Harant & Brygoo	1949
	---; ---; 123, 175, 254, 320	Bequaert	1930
	---; forest; 131	Ovazza et al.	1959
	---; forest, Jan., May, Sept.; 156	Doucet et al.	1958
	---; high forest, May, Aug.; 226	Crosskey & Crosskey	1955
	---; ---; 279	Simpson	1913
	---; ---; 364	Austen	1926
<i>marmorosus</i> <i>marmorosus</i> Surcouf	---; ---; 44, 61, 123, 175, 254, 279. (Present all months)	Oldroyd	1954
<i>marmorosus</i> <i>congoicola</i> Bequaert	---; ---; 44, 111, 115, 267. (Prefers shade, in forest only, present all months)	Oldroyd	1954
	---; in forest gallery; 61	Oldroyd	1957
	---; forest galleries; 206	Taufflieb & Finelle	1956
	---; forest and forest gallery; 319	Hard et al.	1962
	---; in houses during day; 320	Haddow	1952
<i>martini</i> Surcouf	---; ---; 131, 279. (Jan.)	Oldroyd	1954
	---; Dec.; 156	Doucet et al.	1958
	---; mountain grassland; 319	Oldroyd	1957

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>tabanus</i>			
<i>martini</i>	---; ---; 324. (Forest)	Ovazza et al.	1959
<i>Surcouf</i>			(1950)
<i>(cont.)</i>			
<i>melanotarsus</i>	---; ---; 44, 214, 227, 230, 292. (Sept.-Oct.)	Oldroyd	1954
<i>Austen</i>			
<i>vespillo</i>	---; May; 102	Oldroyd	1954
<i>Surcouf</i>			
<i>minutularius</i>	---; ---; 214, 299, 322. (Nov.-Apr.)	Oldroyd	1954
<i>Austen</i>			
<i>italiensis</i>	---; ---; 8	Leclercq	1962
<i>Macquart</i>			
	---; ---; 211, 316	Kröber	1924
<i>miris</i>	---; ---; 8, 211	Leclercq	1961
<i>Szilády</i>			
	---; ---; 316	Surcouf	1921
<i>colostoma</i>	---; ---; 211	Kröber	1924
<i>Becker</i>			
<i>monocallus</i>	---; ---; 267	Travassos	
<i>Travassos</i>		Santos Dias	1958b.
<i>Santos Dias</i>			
<i>ordax</i>	---; ---; 13, 96, 163, 284. (Probably present all months)	Oldroyd	1954
<i>Austen</i>			
<i>versitans</i>	---; ---; 13, 163, 284. (Dec.-Feb., June)	Oldroyd	1954
<i>Ricardo</i>			
<i>ulaba</i>	---; ---; 44, 227. (Sept.)	Oldroyd	1954
<i>Bequaert</i>			
	---; ---; 364	Lamberton	1962
<i>magdalenensis</i>	---; ---; 44, 227, 322	Oldroyd	1947
<i>Carter</i>			
	---; ---; 230	Neave	1915
<i>novus</i>	---; ---; 322	Surcouf	1909
<i>Wiedemann</i>			
<i>novus</i>	---; ---; 54	Neave	1912
<i>Austen</i>			
	---; ---; 163	Anderson	1924
	---; in houses by day; 320	Haddow	1952
<i>memoralis</i>	---; ---; 2, 211, 316	Kröber	1939
<i>Meigen</i>			
<i>memoralis</i>	---; ---; 8	Kröber	1939
<i>var. ruficornis</i>			
<i>Surcouf</i>			

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>nigrifacies</i> Gobert	---; on flower, <i>Spartium lanceum</i> ; 8	Surcouf	1924
	---; ---; 211, 273	Kröber	1924
	---; ---; 316	Kröber	1939
<i>nigrifer</i> Walker	---; ---; 96	Kröber	1924
	---; ---; 316	Kröber	1939
<i>nigrostriatus</i> Ricardo	---; ---; 132	Tendeiro	1947
	---; ---; 227. (Oct.-Jan.)	Oldroyd	1954
	---; Jan.; 230	Neave	1915
<i>niloticus</i> Austen	---; ---; 13, 44, 117, 279, 320	Surcouf	1909
<i>niveinotatus</i> Bequaert	---; 44, 226. (Forest belt, Jan.;	Oldroyd	1954
	---; Dec., high forest, savanna; 226	Crosskey & Crosskey	1955
<i>noctis</i> Walker	---; ---; 322	Surcouf	1909
<i>notatus</i> Bigot	---; ---; 14, 44, 111, 206, 226, 320	Surcouf	1909
<i>opacus</i> Ricardo	---; ---; 14	Travassos Santos Dias	1958
	---; ---; 44, 214, 230, 292	Bequaert	1930
	---; ---; 69, 156. ---; Sept., Nov.; 324	Ovazza et al.	1959 (1960)
	---; savanna with trees; 112	Ovazza et al.	1956
	---; ---; 132	Tendeiro	1947
	---; Mar., Sept.-Nov., peak Sept.-Oct., savannas; 226	Crosskey & Crosskey	1955
	---; ---; 227. (Oct.-June)	Oldroyd	1954
	---; ---; 364	Lamberton	1962
<i>obliquemaculatus</i> Marquart	---; July; 14	Travassos Santos Dias	1958
	---; ---; 56, 322. (Dec.)	Oldroyd	1954
	---; ---; 160, 162	Ghidini	1938

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>obscurifrons</i> Surcouf	---; ---; 14, 44, 206, 267, 279	Bequaert	1930
	---; ---; 61, 111, 254	Oldroyd	1954
	---; ---; 115	Galliard	1933
	---, Feb.-May, July-Sept., Nov., mangrove, high forest; 226	Crosskey & Crosskey	1955
	---; forest species; 319	Taufflieb & Finelle	1956
<i>obscurihirtus</i> Ricardo	---; ---; 44, 61, 175, 254	Bequaert	1930
	---; one of the most widespread species, particularly in forest gallery in savannah areas, and in forest clearings; 111 (Present all year round)	Oldroyd	1954
	---; ---; 115, 206 (Present all year)	Taufflieb & Finelle	1956
	---; May; 156	Doucet et al.	1958
	---; May, mangrove, high forest; 226	Crosskey & Crosskey	1955
	---; very frequent during rainy season, and forest galleries, all year; 111	Itard et al.	1963
<i>obscurihirtus</i> var. <i>lulutuensis</i> Bequaert	---; rain forest area; 44	Bequaert	1930
<i>obscuristigmatus</i> Bigot	---; Dec.; 186	Oldroyd	1957
<i>obscuristigmatus</i> Ricardo	---; Feb., Mar.; 44	Oldroyd	1954
<i>obscurior</i> Ricardo	---; ---; 44, 320	Bequaert	1930
<i>obscuripes</i> Ricardo	---; ---; 44, 102, 214, 227, 364	Bequaert	1930
	---; Oct.-Nov.; 230	Neave	1915
<i>obscurissimus</i> Ricardo	---; ---; 123, 206, 279*	Surcouf	1909
<i>ovazzai</i> Crosskey	---; flood zone, Jan.-Apr., river banks; 324	Ovazza et al.	1959 (1960)

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>pallidifacies</i>	---; ---; 54	Surcouf	1909
Surcouf	---; ---; 100	Ferraro	1917
	---; Nov.-Mar., swamps and rivers; 163	Oldroyd	1954
<i>par</i>	---; ---; 13, 44	Bequaert	1930
Walker	---; Nov.; 14	Travassos Santos Dias	1958
	---; ---; 61	Karant & Bryce	1949
	---; end of dry season; 71. ---; ---; 115. ---; forest, abundant in dry season; 206	Taufflieb & Finelle	1956
	---; ---; 89	Quélennec	1962
	---; ---; 102, 284, 322	Ghidini	1938
	---; ---; 112	Holstein	1957 (1958)
	---; Sept.; 117	Bertram et al.	1956
	---; ---; 123	Simpson	1914
	---; ---; 132	Tendeiro	1947
	---; May; 156	Doucet et al.	1958
	---; ---; 163	Lumsden	1955
	---; ---; 175	Briscoe	1947
	---; Feb., May-Dec., mangrove, high forest, savannahs; 226	Crosskey & Crosskey	1955
	---; ---; 227	Neave	1912
	---; Oct.-Jan.; 230	Neave	1915
	---; ---; 279	Simpson	1913
	---; dry season, all year, Aug., Oct.; 319	Itard et al.	1963
	---; crepuscular or nocturnal activity, enter houses, motor cars, etc., females especially bite in forest canopy by night, in forest ground-level by day, man is not preferred host, peak of activity during second hour after sunset (19-20 hours); 320*	Haddow & Corbet	1960
	---; Mar., Aug.; 324	Ovazza et al.	1956
	---; Feb.-Dec.; 324	Ovazza et al.	1959 (1960)

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY, DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i> <i>par</i> Walker (cont.)	---; Dec.-Jan.; 364	Chapman	1950
<i>pertinens</i> Austen	---; ---; 13. ---; savannahs; 279, 322. (All months, Oldroyd larvae live in water on roots of grasses and water-plants, prefer rivers with sandy bottoms and banks)		1954
	---; ---; 61, 71	Taufflieb & Finellie	1936
	---; ---; 115	Calliard	1933
	---; ---; 123	Simpson	1914
	---; ---; 163	Anderson	1924
	---, savannahs, Nov.-Jan.; 226	Crosskey & Crosskey	1955
	---; ---; 227	Neave	1912
	Rivers; low lying river beds; 230	Neave	1915
	---; near rivers, 322	Bedford	1926
	---; ---; 322. (Almost universal outside rain-forest areas)	Oldroyd	1957
	---; savannah; 324	Ovazza et al.	1959 (1960)
	---; ---; 364	Lamerton	1962
<i>pluto</i> Walker	---; ---; 44, 117, 123, 279, 320	Surcouf	1909
	---; May, oil palm zone, dense thicket near putrid marshes; 89. ---; on border of savannah and large forest, July; 156	Ovazza et al.	1956
	---; ---; 131. ---; savannah; 324	Ovazza et al.	1959
	---; May, July; 156	Doucet et al.	1958
	---; ---; 175	Bequaert	1930
	---; May, high forest, savannah; 226	Crosskey & Crosskey	1955
	---; ---; 226. (Apr.-May)	Oldroyd	1954
	---; rainy season Mar.-June; 319	Itard et al.	1963
	---; Aug.; 324	Ovazza et al.	1959 (1960)

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TAPATUS</i>			
<i>politus</i> Walker	---; ---; 96	Kröber	1925a.
<i>polygonus</i> Walker	---; ---; 8	Kröber	1925
<i>porgae</i> Quélennec	---; ---; 89	Quélennec	1962
<i>postacutus</i> Oldroyd	---; Jan.; 156	Doucet et al.	1958
	---; ---; 175, 279. (Aug., Sept., Jan.)	Oldroyd	1954
<i>principis</i> Bequaert	---; 248, 267. (Sept.-Nov.)	Oldroyd	1954
<i>producticornis</i> Austen	---; ---; 163	Neave	1912
	---; sea-shore near a mangrove swamp; 364	Aders	1917
<i>ptolomaeus</i> Szilády	---; ---; 96	Kröber	1925
<i>pulchellus</i> Loew	---; ---; 8, 96	Kröber	1939
	---; ---; 176, 211, 284, 316	Kröber	1924
<i>pullulus</i> Austen	---; ---; 227, 230, 292, 364. (Dec.-May)	Oldroyd	1954
<i>pulverifer</i> Walker	---; ---; 8	Kröber	1925
<i>quadriguttatus</i> Ricardo	---; ---; 163	Anderson	1924
	---; ---; 361	Surcouf	1909
	---; near rivers, rain forest, open grassland near forest, Nov.-June; 364	Oldroyd	1954
<i>quadrisignatus</i> Ricardo	---; savannahs immediately adjoining forest zone; 13, 44, 163, 279, 320. ---; ---; 114. (July-Apr.)	Oldroyd	1954
	---; ---; 206, 227, 230, 364. (Appears to be an insect of savannah country)	Bequaert	1930
	---; July-Apr., high forest; 326	Crosskey & Crosskey	1955
	---; all year, frequent in dry season and beginning of rainy season Feb.-Apr., savannahs; 319	Itard et al.	1963
	---; rare, flood zone, Apr.-May; 324. (Savannah immediately adjoining forest zone)	Ovazza et al.	1959 (1960)

TABLE 1 - HOPSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>justicornis</i> Meigen	---; around animals, on weeds, tree trunks, stems, and the female rarely attacks humans; 96°	Erfolatour Bey	1930
<i>regalis</i> Oldroyd	---; ---; 44, 51. (Canopy-dwelling species) ---; ---; 111 ---; rainy season; 206	Oldroyd Travaessos Santos Dias Traufflieb & F nelle	1954 1953b. 1956
<i>regalis</i> Surcouf	---; Dec., Jan. and Mar., species of rain forest; 44. ---; species of rain forest; 206	Bequaert	1930
<i>regularis</i> Jaenicke	---; Sept.; 8 ---; ---; 316	Surcouf Kröber	1924 1939
<i>regularis</i> <i>rufus</i> Szilady	---; July; 211. ---; ---; 316	Leclercq	1961
<i>ricardae</i> Surcouf	---; ---; 117, 131	Oldroyd	1954
<i>richsoni</i> Surcouf	---; ---; 54 ---; ---; 16? 320. (May-July, Nov.)	Surcouf Oldroyd	1909 1954
<i>roulei</i> Surcouf	---; ---; 44 ---; ---; 115	Surcouf Galliard	1909 1933
<i>rousseleti</i> Macquari	---; ---; 8, 211, 316	Kröber	1939
<i>ruficornis</i> Palisot de Beauvois	---; Dec.-Feb.; 44. ---; Sept. and Oct.; 175. ---; ---; 230. ---; frequent; 61 ---; Jan., Mar., July, Sept.; 156 ---; Sept., high forest; 226	Bequaert Harant & Brygoo Doucet et al. Crosskey & Crosskey	1930 1949 1958 1955
<i>ruficornis</i> Palisot de Beauvois	---; ---; 44, 156 ---; ---; 115 ---; ---; 230, 320 ---; ---; 279	Surcouf Bequaert Neave Simpson	1909 1932 1912 1913

TABLE 1 - HORSE FLIES (continued)

SPECIES	FEEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PAVUS</i>			
<i>ruficornis</i>	---; ---; 14	Travassos Santos Dias	1958
<i>fusconigritus</i>	---; ---; 44, 230, 320. ---; rain forest; 125. (All months of year)	Oldroyd	1954
<i>ricardo</i>	---; ---; 115, 206	Taufflieb & Finelle	1956
	---; May, clear area; 131	Ovazza et al.	1959
<i>rufipes</i> Macquart	---, ---; 71, 226, 230, 279, 284, 322	Surcouf	1909
<i>rupinae</i> Austen	---; ---; 96	Bodenheimer & Theodor	1929
<i>rasticus</i> Linnaeus	---; ---; 8, 211, 216	Kröber	1924
<i>raenzorii</i> Ricardo	---; mountain forest edge; 44, 320	Bequaert	1930
	---; ---; 363. (Nov., Jan., May, June, bites man)	Oldroyd	1954
<i>sagittarius</i> Macquart	---; Oct., Nov.; 14	Travassos Santos Dias	1958
	---; ---; 44, 322	Bequaert	1930
	---; ---; 100, 102	Ghidini	1938
	---; ---; 214	Travassos Santos Dias	1958b.
<i>sandersoni</i> Austen	---; ---; 44, 227. ---; crepuscular, marshy ground, sandy plains and hills with trees or bushes, enters houses; 230	Oldroyd	1954
	---; ---; 214	Travassos Santos Dias	1958b.
	---; Jan.-Apr.; 230	Neave	1915
	---; ---; 364	Lamerton	1962
<i>sanguinipes</i> Ricardo	---; ---; 320	Surcouf	1909
<i>schmittianus</i> Endrlein	---; ---; 8	Kröber	1939
<i>scholae</i> Oldroyd	---; ---; 61. (Nov. and Jan.)	Oldroyd	1954
	---; Nov., high forest; 426	Crosskey & Crosskey	1955

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>schoutedeni</i> Bouvier	---; ---; 44	Bouvier	1945
<i>secedens</i> Walker	---; ---; 13, 111, 273, 322	Surcouf	1909
	---; throughout lowland belt; 44, 279, 320. ---; savannah country; 61. (All year round)	Oldroyd	1954
	---; and Jan.; 44. ---; ---; 115, 117, 123, 175,	Bequaert	1930
	---; near, peak Apr. and Nov.-Dec.; 61	Harant & Brygoo	1949
	---; 1. (Forest, forest galleries and savannah)	Taufflieb & Finelle	1956
	---; 19	Quélennec	1962
	---; Jan. Mar.-June; 156	Doucet et al.	1958
	---, large forest 156	Ovazza et al.	1956
	---; Feb.-Aug., Oct.-Nov., mangrove, high forest, savannah; 226	Crosskey & Crosskey	1955
	---; largely in forests and forest galleries, all year 319	Itard et al.	1963
	---; in forest; 320	Haddow et al.	1961
	---; ---; 264	Austen	1976
<i>secedens</i> var. <i>claripes</i> Ricardo	---; ---; 61, 206, 319. ---; secondary forest; 102	Ovazza et al.	1956a.
	---; Jan.; 102	Ovazza	1956
<i>secedens</i> form <i>kingsleyi</i> Ricardo	---; ---; 123, 175, 226, 279. (All year round)	Oldroyd	1954
	---; Apr., May, savannah, plateau with short grass, transition zone; 131	Ovazza et al.	1959
	---; savannah near forest, Jan., Feb., May, July; 156	Doucet et al.	1958
<i>secedens</i> var. <i>kingsleyi</i> Ricardo	---; large forest; 156	Ovazza et al.	1956
<i>secedens</i> form <i>regnaulti</i> Surcouf	---; ---; 44, 123, 226, 279. (All year round)	Oldroyd	1954
<i>secedens</i> var. <i>regnaulti</i> Surcouf	---; forest, May; 156	Doucet et al.	1958
	---; appear in great number in Dec.; 206	Taufflieb & Finelle	1956

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>secegens</i>	---; May; 131	Ovazza et al.	1959
<i>secegens</i> Walker	---; savannah with forest gallery; 206	Ovazza et al.	1956a.
<i>selousi</i> Austen	---; ---; 13	Oldroyd	1954
<i>seperatus</i> Eflatoun Bey	Swampy land; ---; 96	Eflatoun Bey	1930
<i>septempunctatus</i> Ricardo	---; ---; 44, 227, 292, 354	Surcouf	1909
<i>sericiventris</i> Loew	---; ---; 42, 322. (Dec.-Feb.) ---; ---; 284	Oldroyd Ghidini	1954 1938
<i>seurati</i> Surcouf	In humid sand, on seashore in association with various Annelides and crustaceas; on flowers of <i>Eryngium maritimum</i> or on seaweed in bay; 8. In damp sand, on edge of island in association with various Annelides and Crustaceas; ---; 316	Surcouf	1922
<i>severini</i> Surcouf	---; ---; 44, 61. (June-Sept., Jan.) Swamps in dense forest; ---; 226 ---; mangrove, Jan.; 226	Oldroyd Williams Crosskey & Crosskey	1954 1962 1955
<i>skarpei</i> Austen	---; ---; 44, 227, 230, 364	Bequaert	1930
<i>siccus</i> Walker	---; ---; 96	Kröber	1939
<i>silvanus</i> Ricardo	---; Nov.; 186	Oldroyd	1954
<i>simpsoni</i> Austen	---; ---; 89 ---; ---; 123, 307. (May be restricted to a small part of West African savannah, May-Nov.) ---; savannah, May; 156 ---; June, Oct.; 226	Quéliennec Oldroyd Doucet et al. Crosskey & Crosskey	1962 1954 1958 1955
<i>socialis</i> Walker	---; ---; 44, 156, 175, 226, 273, 279 ---; ---; 61, 100, 113, 117 ---; ---; 123	Bequaert Surcouf Simpson	1930 1909 1914

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>socialis</i> Walker (cont.)	---; forest canopy day and night, enters houses by day; 320	Maddow	1952
	---; ---; 320°	Lumsden	1952
<i>sericus</i> Walker	---; ---; 13, 14, 71, 206, 214, 273, 320, 322, 344	Surcouf	1909
	---; ---; 44. (More or less typical of the savannah country)	Bequaert	1930
	---; ---; 10.	Ghidini	1938
	---; ---; 156	Rodhain	1916
<i>sousaiaasi</i> Travassos Santos Dias	---; ---; 14	Travassos Santos Dias	1958a.
<i>spectabilis</i> Loew	---; ---; 211	Kröber	1939
<i>sticticus</i> Surcouf	---; ---; 13, 117, 123, 131, 320. (Species of southern fringe of the Sahara, Jan.-Mar.)	Oldroyd	1954
	---; Jan.; 156	Doucet et al.	1958
	---; open country, Nov.-Dec.; 230	Neave	1915
	---; ---; 279	Anonymous	1915
	---; Feb.-Mar ; 324	Ovazza et al.	1959 (1960)
<i>strictus</i> Surcouf	---; ---; 96	Kröber	1925
<i>stegius</i> Say	---; ---; 44	Vanderyst	1928
<i>subopacus</i> Ricardo	---; ---; 13, 123. ---; nocturnal or crepuscular, May and Oct.; 226. (May-Oct. bites ferociously, along savannah belt to Sahara desert)	Oldroyd	1954
	---; rainy season; 71, 319	Taufflieb & Finella	1956
	---; July; 156	Doucet et al.	1958
	---; edge of savannah forest, Aug.; 156	Ovazza et al.	1956
	---; ---; 225	Surcouf	1909
	---; high forest, savannah, Apr.-Oct., peak June-July; 226	Crosskey & Crosskey	1955
	---; nocturnal, attracted by light; 279	Simpson	1913

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>subangustus</i> Ricardo (cont.)	---; July-Sept., on man in evening near light; 324 ^a	Ovazza et al.	1959 (1960)
<i>subfasciatus</i> Becker	---; Feb.; 13	Oldroyd	1954
<i>subvittatus</i> Ricardo	---; ---; 14	Surcouf	1909
<i>sufis</i> Jaennicke	---; ---; 13, 44, 96, 201, 273, 319	Bequaert	1930
	---; ---; 71, 102, 163, 364. (May-Dec.)	Oldroyd	1954
	---; ---; 100, 111	Ghidini	1938
	---; ---; 112	Holstein	1957 (1958)
	---; Aug.; 117	Bertram et al.	1958
	---; ---; 211	Ferraro	1917
	---; May-Dec., savannahs; 226	Crosskey & Crosskey	1955
	---; very dry savannah, Oct.; 324	Ovazza et al.	1956
<i>sugens</i> Wiedemann	---; ---; 112. ---; Nov.; 214. ---; June-July; 226. ---; Mar.; 292.	Ovazza & Valade	1958 (1959)
	---; ---; 131, 320. ---; June; 163. ---; Dec.-Jan.; 230	Oldroyd	1954
	---; July, savannahs; 226	Crosskey & Crosskey	1955
	---; Feb., June-Aug., Oct.; 324	Ovazza et al.	1959 (1960)
<i>taeniatus</i> Macquart	---; ---; 322. (Oct.-Feb.)	Oldroyd	1954
<i>taeniola</i> Palisot de Beauvois	Wet soil; ---; 13. ---; almost ubiquitous outside equatorial forest; 102, 273, 322. ---; creeks and breakwaters, rivers, forested area, 226. ---; abun- dant in Dec.; 364 ^a . (Female bites fiercely and pain- fully, present in most months of year, favors summer months: Apr.-Oct. in north, Nov.-Mar. in south.)	Oldroyd	1954
	---; in flood plain; 13	Reid	1955
	---; Mar., June; 14	Travassos Santos Dias	1958

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>taeniola</i>	---; ---; 44, 117, 175, 212. (Rain forest and savannah)	Bequaert	1930
Palisot de Beauvois (cont.)	---; frequent; 61	Harant & Brygoo	1949
	---, abundant during dry season; 71. ---; ---; 115. ---; present all year in houses; 206	Taufflieb & Fineille	1956
	---; ---; 89	Quélennec	1962
	Leaves and stems of cotton plants in freshly irrigated fields; ---; 96	Efflatoun Bey	1930
	---; ---; 111, 214, 225, 235	Surcouf	1909
	---; dry savannah; 112, 273, 324. ---; marshes; 273. ---; damp savannah and savannah with forest gallery; 273, 322, 324	Ovazza et al.	1956
	---; savannah with thorny "neagres", river banks; 112	Holstein	1957 (1958)
	---; July, Sept.-Nov.; 117°	Bertram et al.	1958
	---; ---; 123	Simpson	1918
	---; ---; 132	Tendeiro	1947
	---; Feb., June, July, Sept., Dec.; 156	Doucet et al.	1958
	---; ---; 186. (Most abundant and widespread in mainland Africa)	Oldroyd	1957
	---; June-Jan., Mar., peak Oct.-Nov., mangrove, high forest, savannah; 226	Crosskey & Crosskey	1955
	---; July, Nov.; 226°	Golding	1938
	---; ---; 227	Neave	1912
	Mud cylinders; ---; 230	Lamborn	1938
	---; Oct.-May, peak Oct.; 230	Neave	1915
	---; ---; 279	Simpson	1913
	---; ---; 284	Ghidini	1938
	---; along rivers and lakes, all year, frequent in rainy season; 319	Howard et al.	1963
	---; in forest at night, savannah and bush by day; 320	Haddow	1952
	---; forest floor, by day, scarce; 320°	Haddow et al.	1950

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>taeniola</i>	---; ---; 322*	Tinley	1964
Palisot de Beauvois (cont.)	Marshy collections of water; Feb.-Nov., near perma- nent ponds in dry season, flood zones; 124	Ovazza et al.	1959 (1960)
	---; collected in bush, in grasslands, common during rains, Feb.-May, Aug., Oct.-Dec., sometimes more abundant in Dec., only occasionally seen at tempera- tures below 25° C.; 364	Chapman	1960
	---; caught on man, May; 364	Smith	1955
	---; bites man severely; 364*	Aders	1917
<i>taeniola</i> var. <i>proximus</i> Corti	---; ---; 102	Kröber	1924
<i>taeniola</i> form <i>sagittarius</i> Macquart	---; ---; 44, 111, 227, 292	Oldroyd	1954
	---; abundant in dry season; 71 ---; ---; 115, 319. --- present all year, in houses; 206	Taufflieb & Finelle	1956
<i>taeniola</i> <i>taeniola</i> Palisot de Beauvois	---; ---; 214	Travassos Santos Dias	1956b.
<i>taeniola</i> <i>variabilis</i> Loew	---; ---; 132	Tendeiro	1947
<i>taeniola</i> <i>variatus</i> Walker	---; abundant in dry season; 71. ---; ---; 115, 319. ---; present all year, in houses; 206	Taufflieb & Finelle	1956
	---; river valley, June, Oct., Aug.; 102	Ovazza	1956
	---; ---; 163	Dry	1921
	---; ---; 292	Barrass	1960a.
	---; ---; 320	Saunders	1964
	---; ---; 322	Curson	1928
	---; ---; 364	Lamerton	1962
<i>tenuicornis</i> Macquart	---; ---; 322	Surcouf	1909
<i>tenuipalpis</i> Austen	---; ---; 123. ---; Jan., Aug., and Dec.; 175. ---; ---; 226	Oldroyd	1954
	---; May, forest; 131	Ovazza et al.	1959
	---; forest galleries, forest, July, Sept.; 156	Doucet et al.	1958

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>tenuipalpis</i> Austen (cont.)	---; ---, 279	Bequaert	1930
<i>tenuipes</i> Austen	---; ---; 123, 279	Bequaert	1930
<i>terminalis</i> Walker	---; ---; 96	Phillip	1948
<i>thoracicus</i> Palisot de Beauvois	---; savannah, high forest belt; 14, 214, 279	Oldroyd	1954
	---; Mar., Nov.-Dec.; 14	Travassos Santos Lias	1958
	---; ---; 44, 163, 344, 364	Bequaert	1930
	---; all year, peak Nov.; 61	Harant & Brygoo	1949
	---; ---; 71	Muraz	1922
	---; May, Nov.; 89. ---; forest, savannah, May; 156	Ovazza et al.	1956
	---, present all year, peak during rainy season: 115, 206, 319	Taufflieb & Finelle	1956
	---; ---; 123	Simpson	1914
	---; ---; 131	Ovazza et al.	1959
	---; forest gallery, May, July, Oct.; 156	Doucet et al.	1958
	---; mangrove, high forest, savannah, Apr.-July; 226	Crosskey & Crosskey	1955
	---; ---; 227	Neave	1912
	---; Oct.-Jan.; 230	Neave	1915
	---; ---; 279	Simpson	1913
	---; ---; 284	Ghidini	1938
	---; all year, Apr.-Jan.; 319	Ilard et al.	1963
	---; enter houses and motor cars (especially the females), bite in forest at ground-level by day, peak of activity for females is 7-10 p.m., peak for males 3-5 a.m.; 320°	Haddow & Corbet	1960
	---; in forests at night, car and tent by day; 320	Haddow	1952
	---; swarms at dawn above forest canopy; 320	Corbet & Haddow	1962
	---; July, Oct.; 324. (Forest species)	Ovazza et al.	1959 (1960)

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>tibialis</i> Macquart	---; ---; 8	Kröber	1925
<i>tinctus</i> Walker	---; ---; 8, 96. ---; July; 211	Leclercq	1961
<i>tomentosus</i> Macquart	---; ---; 8, 316	Kröber	1939
	---; ---; 211	Kröber	1924
<i>trianguliger</i> Austen	---; Oct.-Nov.; 364	Oldroyd	1954
<i>tripunctifer</i> Walker	---; ---; 322	Surcouf	1909
<i>triquetromatus</i> Carter	---; ---; 44, 61, 279. (All months of year)	Oldroyd	1954
	---; Jan.; 156	Doucet et al.	1958
	---; forest, rainy season; 206	Taufflieb & Finelle	1956
	---; all year, mangrove, high forest; 226	Crosskey & Crosskey	1955
<i>tritæniatus</i> Ricardo	---; ---; 14, 227. (Nov.-Jan.)	Oldroyd	1954
	---; in savannahs; 206*	Taufflieb & Finelle	1956
	---; ---; 319	Itard et al.	1963
<i>tuneticus</i> Enderlein	---; ---; 8, 316	Kröber	1939
<i>tunisiensis</i> Surcouf	---; ---, 8, 211, 316	Kröber	1924
<i>umbrinus</i> Meigen	---; ---; 8	Kröber	1925
<i>unicinctus</i> Loew	---; ---; 96	Kröber	1939
<i>unifasciatus</i> Loew	---; ---; 96	Kröber	1939
<i>unilineatus</i> Loew	---; ---; 163, 214, 227, 230, 292, 364. (Jan.-Aug.)	Oldroyd	1954
<i>uitæniatus</i> Ricardo	---; ---; 13, 214	Surcouf	1909
	---; ---; 163	Anderson	1924
	---; ---; 227	Neave	1912
	---; Jan.; 230	Neave	1915

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>usius</i> Walker	---; ---; 13, 14, 322, 364. ---; vast number of both sexes in Oct.; 230. (Most months of the year)	Oldroyd	1954
	---; ---; 44, 227, 320. (Appears to be species of African savannah, south and east of the rain forest belt)	Bequaert	1930
	---; abundant; 61	Harant & Brygoo	1949
	---; ---; 163	Lewis	1931
	---; Oct.-Nov., peak Oct.; 230	Neave	1915
	---; ---; 322°	Tinley	1964
<i>ustus</i> var. <i>disjunctus</i> Ricardo	---; ---; 44, 320, 322. (Appears to be a species of the African savannahs, south and east of the rain forest belt)	Bequaert	1930
<i>variabilis</i> Loew	---; ---; 13, 111, 117, 279. (Oct.-Feb.)	Oldroyd	1954
	---; ---; 44, 61, 156, 163, 206, 214, 227, 320, 322, 364. (Species of savannah country)	Bequaert	1930
	---; ---; 54	Surcouf	1909
	---; ---; 102	Ghidini	1938
	---; ---; 115	Taufflieb & Finelle	1956
	---; Apr., savannah; 131	Ovazza et al.	1959
	---; wooded streams, Oct.-Nov.; 230	Neave	1915
	---; savannah, dry season; 319	Itard et al.	1963
	---; ---; 322°	Tinley	1964
<i>varians</i> Surcouf	---; ---; 44	Surcouf	1909
<i>variatus</i> Laveran	---; ---; 214	Travassos Santos Dias	1958b.
	---; ---; 364	Morstatt	1913
<i>v. luteus</i> Surcouf	---; ---; 102	Ghidini	1938
	---; ---; 163	Neave	1912
<i>vexans</i> Loew	---; Nov.; 322	Oldroyd	1954
<i>villosus</i> Macquart	---; ---; 8, 316	Krober	1939

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>villosus</i> Macquart (cont.)	---; ---; 211	Kröber	1924
<i>vittatus</i> Fabricius	---; ---; 211	Kröber	1925
<i>wellmanni</i> Austen	---; ---; 14, 44, 227	Bequaert	1930
<i>williamsi</i> Austen	---; ---; 320	Haddow	1952
<i>xanthomelas</i> Austen	---; ---; 13, 131, 227, 273, 292. ---; Sept., Oct., Nov.; 44. ---; Nov., Jan.; 230	Oldroyd	1954
	---; May, Nov.; 14	Travassos Santos Dias	1956
	---; ---; 123	Bequaert	1930
	---; ---; 163	Anderson	1924
	---; ---; 319	Itard et al.	1963
	---; crepuscular or nocturnal activity; 320	Haddow & Corbet	1960
	---; ---; 364	Lamerton	1962
<i>zoulouensis</i> Bigot	---; ---; 13, 44, 102, 214, 227. (Sept.-May)	Oldroyd	1954
	---; Oct.-Nov.; 230	Neave	1915
	---; ---; 322°	Tinley	1964
	---; ---; 364	Lamerton	1962
<i>zoulouensis</i> <i>obscurior</i> Ricardo	---; ---; 44, 123, 320. (Sept.-May)	Oldroyd	1954
	---; exclusively in forest; 115. ---; rainy season; 206	Taufflieb & Finelle	1956
	---; forest, May; 156	Doucet et al.	1958
	---; ---; 226	Williams	1961
	---; forest galleries, May; 319	Itard et al.	1963
<i>TENDEIROIELLA</i>			
<i>mossambicensis</i> Travassos Santos Dias	---; ---; 214	Travassos Santos Dias	1958b.

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>THAUMASTOCERA</i> <i>akwa</i> Grunberg	Rot-hole of a stump of felled tree; ---; 44. ---; enters houses, Nov.-Dec.; 226. ---; July, forest belt; 279. ---; forest belt; 320. (Sept.-May)	Oldroyd	1954
	---; Mar. and Sept.; 44. ---; ---; 61, 123, 206, 254.	Bequaert	1930
	---; ---; 115	Tauffflieb & Finelle	1956
	---; forest species; 131	Ovazza et al.	1959
	---; forest along canal, May, July, Oct., Jan.; 156	Doucet et al.	1958
	---; ---; 175	Briscoe	1947
	---; Dec.-Jan., Apr., Oct., mangrove, high forest; 226	Crosskey & Crosskey	1955
	---; rare species; 279	Simpson	1913
	---; July; 319	Itard et al.	1963
<i>louiati</i> Séguy	---; ---; 131	Oldroyd	1954
<i>cervaria</i> Seguy	---; forest; 44	Seguy	1935
	---; ---; 123. (Probably canopy dweller or nocturnal)	Oldroyd	1957
	---; forests; 320	Haddow et al.	1961
<i>vittata</i> Surcouf	---; ---; 156	Larrousse	1923
<i>THERIOPECTES</i> <i>algericus</i> Enderlein	---; ---; 8	Enderlein	1931
<i>apicalis</i> Enderlein	---; ---; 8	Enderlein	1931
<i>THRIAMBEUTIS</i> <i>austeni</i> Hines	---; ---; 44	Bequaert	1930
<i>fuscus</i> Austen	---; ---; 42	Austen	1920a.
<i>mesembrinoides</i> Surcouf	---; Sept.; 364	Oldroyd	1957
<i>nigripennis</i> Enderlein	---; canopy of equatorial rain forest, Mar.-May; 44	Oldroyd	1954
	---; along river; 61, 206	Tauffflieb & Finelle	1956

TABLE 1 - HORSE FLIES (concluded)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>THRIAMBEUTES</i>			
<i>nigripennis</i> Enderlein (cont.)	---; high forest; 226	Crosskey & Crosskey	1955
<i>singularis</i> Grünberg	---; ---; 44, 254, 307. (Rare species of canopy of equatorial forest, Oct.-Nov.)	Oldroyd	1957
	---; Oct., high forest; 226	Crosskey & Crosskey	1955
<i>v-album</i> Surcouf	---; ---; 43	Travassos Santos Diaz	1958b.
	---; ---; 214, 292. (Nov.-Jan.)	Oldroyd	1957
	Rot holes; at dusk rest on bark of trees; 230	Lamborn	1938
<i>TRICLIDA</i>			
<i>bekilyana</i> (Séguy)	---; Oct.; 186	Séguy	1949
<i>bengalia</i> (Séguy)	---; Sept.; 186	Séguy	1949
<i>brunnea</i> Séguy	---; ---; 186	Séguy	1949
<i>chopardi</i> (Surcouf)	---; ---; 186	Travassos Santos Dias	1958b.
<i>cincta</i> (Surcouf)	---; Jan.; 186	Séguy	1949
<i>confusa</i> (Surcouf)	---; ---; 186	Séguy	1949
<i>decarji</i> Séguy	---; ---; 186	Séguy	1949
<i>longirostris</i> Séguy	---; ---; 186	Travassos Santos Dias	1958b.
<i>lurida</i> Enderlein	---; ---; 186	Mackerras	1955
	---; ---; 275	Dequaert	1930
<i>macfarriana</i> Séguy	---; Dec.; 186	Séguy	1949
<i>nebulosa</i> (Séguy)	---; ---; 186	Travassos Santos Dias	1958b.
<i>proxima</i> (Surcouf)	---; ---; 186	Séguy	1949
<i>variegata</i> (Surcouf)	---; Oct., Dec., Feb.; 186	Séguy	1949

TABLE 2 - SUMMARY OF DISEASES OR DISEASE ORGANISMS TRANSMITTED BY
HORSE FLIES

SPECIES	DISEASE OR DISEASE ORGANISM				COUNTRY
	VIRUS & RICKETTSIA	PROTOZOA	HELMINTHS	OTHER	
<i>CHRYSOPE</i>					
<i>centurionis</i> Austen			<i>Loa loa</i>		226
<i>dimidiata</i> Van der Wulp			<i>Loa loa</i>		44, 226
<i>distinctipennis</i> Austen			<i>Loa loa</i>		13 (Duke), 13 (Woodman)
<i>longicornis</i> Macquart			<i>Loa loa</i>		13
<i>silaceus</i> Austen			<i>Loa loa</i>		13, 226
			leishmaniasis		226 (Crew)
<i>zahraei</i> Oldroyd			<i>Loa loa</i>		226

TABLE 3 - HORSE FLIES
(UNCONFIRMED ENTRIES)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>ATYLOTUS</i> <i>nemorialis</i> <i>rufo-cornis</i> Surcouf	---; ---; 8	Surcouf	1920
<i>TABANOCELLA</i> <i>perpulera</i> Austen	---; ---; 13	King	1924
<i>TABANUS</i> <i>algirus</i> Macquart	---; May, June; 8	Surcouf	1913
<i>corax</i> Loew	---; ---; 13	King	1924
<i>latus</i>	---; ---; 61	Jojob	1921
<i>subangustus</i> Ricardo	---; ---; 89	Goyon	1914
<i>taeniola</i> Palisot de Beauvois	---; ---; 248	da Costa et al.	1916

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F BITING FLIES

Biting flies belong to several families, but nearly all of the important species involving man belong to the genus *Glossina*. This genus, the famed tsetse fly, is placed by some in the family Muscidae and by others in a separate family, Glossinidae.

The tables include 67 species or subspecies. No additional species are listed as unconfirmed.

TABLE 1 - BITING FLIES

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>GLOSSINA austeni</i> Newstead	rain forest; ---; 13	Mcgridge	1936
	---; ---; 54	Ford	1954
	---; ---; 132	Austen & Hegh	1922
	In thickets or fringes of broken forest; most active at night; 163	Lewis	1942
	---; savannah, bites at night; 163°	Mcgridge	1948
	---; naturally infected with trypanosomes; 163	Ford & Leggate	1961
	---; heavy wooding in coastal area; 163, 364	Napier Bax	1943- 1944
	Thickets in dunes; ---; 186	Marques da Silva	1958
	Under logs, beneath trees, very thick bush mostly with open water or small ponds; along coast, needs shade and humidity, not found 100 km inland, in vir- gin forests; 214, 322	Fiedler	1950
	Sandy soil, under logs; ---; 214°	Swynnerton	1921
	Damp compact virgin forest, under tree trunks; ---; 214	de Sousa Napoles	1928
	---; deciduous or evergreen thickets in coastal belt, savannah woodlands of lowland country, dry deciduous forest of low and medium altitudes, in some very dry areas, in some moist, semi-deciduous forest of medium altitudes; 214	Esteves de Sousa	1960
	---; margins of forest; 214. ---; ---; 299. Under walls of coral rock; greatest activity in morning and afternoon; 364	Langridge et al.	1963
	---; primary forests; 214. (Breeds under fallen tree, in large tropical forests)	Gaschen	1945
	---; ---; 284	Ford	1963
	---; ---; 292	Goodier	1961
	---; Feb.-Nov.; 322. (On soil at foot of palms, under edges of rocks)	du Toit	1954
	---; ---; 322. (Fallen trees, dense, damp virgin forests)	Zumpt	1936
	---; ---; 359	Ghidini	1938

TABLE 1 - BITING FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>GLOSSINA</i>			
<i>austeni</i>	---; dense thickets; 364	Moggridge	1950
Newstead (cont.)	---; bites man at night; 354°	Vanderplank	1945
	---; Jan., Feb.; 364	Newstead	1915
<i>austeni</i>	---; ---; 214	Dias & de Sousa Junior	1959
<i>austeni</i> <i>austeni</i> Newstead			
<i>austeni</i> <i>mosauriensis</i> Dias	---; ---; 214	Dias & de Sousa Junior	1959
<i>brevipalpis</i>	Rain forests; ---; 13	Moggridge	1936
Newstead	---; ---; 14. ---; coastal belt; 163	Patton	1936
	Dry soil; crepuscular, under tree trunks, branches, stones; 44	Hegh	1934
	Wooded belts beside rivers or streams; occasionally bites man; 44°. (Suspected vector of trypanosomes)	Schwetz	1915a.
	---; roads and paths in forest, orchard bush and well-wooded savannah, most active half an hour before to half an hour after sunset; 44. ---; enter railway cars, bites at night; 163°. ---; bites in moonlight; 214°. ---; under large trees, naturally infected with trypanosomes, low thick vegetation; 230	Austen & Hegh	1922
	---; riverine gallery forest; 44, 163, 227, 230, 320°, 322. ---; misophytic forest with an understorey of shrubs hung with lianas, riverine thicket; 214. ---; ant-hill thickets near lake shore; 292	Langridge et al.	1963
	---; lianas, not restricted to belts, parkland; 44	Schwetz	1917
	---; ---; 102. (Well shaded, loose earth, under bushes and fallen trees, sandy shores, shady forest near water, bushes, gallery forest of rivers, most active during early morning and late evening, host man.)	Zumpt	1936
	---; ---; 132. ---; edge of Ceara rubber and teak plantations, secondary dense forest; 364	Buxton	1955
	Underside of large logs; medium density thicket; 163	Moggridge	1950
	Dense bush near water; rests on tree trunks in open spaces; 163	Carpenter	1924
	---; savannah; 163	Moggridge	1948
	Under logs, beneath fallen trees, on hard ground with humus present; primary forest, heavy bush; 214	Swynnerton	1921

TABLE 1 - BITING FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>GLOSSINA</i> <i>brevipalpis</i> Newstead (cont.)	Loose sandy soil, much lighted with humus, among herbaceous vegetation beneath large tree; nocturnal and crepuscular; 230	Lamborn	1920
	---; on hills near rivers in forests having thick under-brush of thickets and liana, on plain in little forest patches near streams or lakes, needs places of dense vegetation and shade; 230	Steele	1958
	---; by day in recesses of thickets, bites at dusk or after dark; 230°	Wilson	1939
	---; ---; 230, 363	Peel & Chardome	1953
	---; ---; 284	Ovazza	1956
	---; riverine forests, wooded "kloofs" of mountains; 292	Chorley	1958
	---; seasonally waterlogged grassland; 320	Smith & Rennison	1961
	---; thicket edge in secondary dry forest; 320	Saunders	1964
	---; heavily vegetated area; 320	Robertson	1963
	---; dependent on dense forests with tall trees, peak Aug.-Sept., and May; 322	Fiedler	1950
	---; ---; 344, 359	Ghidini	1938
	---; ---; 361	Evens et al.	1957
	Evergreen forests, thickets along river, in mixture of loose soil and humus, base of <i>Brachystegia</i> trees; confines itself during rainy season to dense forest gallery, crepuscular, naturally infected with trypanosomes, rarely bites man; 363	Van der Berghe & Lambrecht	1954
	In dense thickets; forested river banks; 364°	Swynnerton	1923
	---; naturally infected with trypanosomes; 364	Burt	1950
<i>caliginea</i> Austen	---; Mar.-Nov., bites in morning and evening; 61°	Guibert	1937
	---; near coasts; 61, 226. (In large tropical forests)	Gaschen	1945
	---; mangroves; 61	Mouchet et al.	1959
	---; hydrophilic; 115, 319	Maillet	1953a.
	---; ---; 123	Simpson	1914
	---; generally associated with mangroves and swamp forests; 226°	Jordan	1961

TABLE 1 - BITING FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>GLOSSINA</i>			
<i>valiginea</i> Austen (cont.)	---; suspected vector of trypanosomes; 226	Nash	1960
	---; large forest; 319	Finelle et al.	1963
<i>ocngolensis</i> Newstead & Evans	---; savannah and dense forest; 319	Yvone	1963
<i>fusca</i> (Walker)	---; ---; 13. (Carrier of trypanosomiasis)	Bedford	1930
	---; far from any waters. grassy savannahs; 14. ---; near or far water courses, June, July, Sept. and Oct., rare in Aug.; 115. ---; dry country with sparse vegetation; 163. ---; thick shade; 279.	Galliard	1933
	Light, dry soil underneath a layer of dead leaves, twigs and humus, beneath trees; most active two hours after sunset, frequents roads and paths; 44. ---; brush fringe, feeds at night; 123. ---; dense forest; 279. Dry gully near river; dense forest; 320	Austen & Hegh	1922
	Wood belts beside rivers and streams, tree trunks; ---; 44	Schwetz	1919
	---; large forests, wide spread; 44. ---; along rivers; 61, 89, 115, 131. ---; along coasts; 123, 156, 226. (Species needs humidity and heat, in large primary forests, dense forest galleries, nocturnal sometimes crepuscular, attacks man, possible vector of <i>Trypanosoma gambiense</i> .) ---; ---; 344.	Gaschen	1945
	---; branches, leaves, does not fly during day, most active soon after sunset, along roads and paths; 44	Schwetz	1917
	---; forests along rivers; 44	Rodhain	1916
	---; forest; 44	Schwetz	1931
	---; Mar.-Nov., bites morning and evening; 61°	Guibert	1937
	---; forest, montane vegetation; 61	Ford	1963
	---; very rare; 71	Muraz	1922
	---; ---; 89, 131, 156, 307. ---; collected Sept. and Oct., rain forest, active daytime, bites in bright sunlight; 175. (Species of rain forest and wider forest galleries along neighboring savannahs.)	Bequaert	1930
	---; along rivers; 111	Ringenbach & Guyonarc'h	1915
	---; forests; 115, 206, 319	Maillet	1953a.
	---; dense jungle, scrub; 123	Fell	1912
	---; along river; 123	Simpson	1914

TABLE 1 - BITING FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>GLOSSINA</i>			
<i>fusca</i> (Walker) (cont.)	---; forest; 132	Tendeiro	1947
	Dry, sparsely wooded areas; ---; 153. (Crepuscular, transmits <i>Trypanosoma gambiense</i> .)	Patton	1936
	Dry loose soil in hollow beneath uprooted tree roots; ---; 175	Bequaert	1946
	---; far from water in dense vegetation; 175	Buxton	1955
	---; most plentiful during rainy season, peak activity just before dark; 226. ---; forests; 320	Langridge et al.	1963
	---; riverine forest, forest islands in savannahs, rain forests; 226	Jordan	1961
	---; ---, 279. (Thick forest, bush or scrub, native or game paths.)	Frew	1928
	---; river banks, very abundant; 319	Jamot	1920
	---; crepuscular; 364	Woosman	1914
<i>fusca</i> var. <i>congolensis</i> Newstead & Evans	---; ---; 44	Schouteden	1927
	---; forests; 115, 206, 319	Maillet	1953a.
	---; forest regions; 319	Finelle et al.	1963
	---; rain and gallery forests; 320	Zumpt	1936
	---; ---; 320°	Lumsden	1951
<i>fusca</i> <i>fusca</i> (Walker)	---; ---; 13, 44, 61, 89, 123, 131, 132, 156, 175, 226, 279, 307, 320. (Dry, loose earth in thick forest, roots of fallen trees; rain and gallery forest near water.)	Zumpt	1936
	---; forests; 115, 206, 319	Maillet	1953a.
	---; ---; 163	Buxton	1955
<i>fuscipes</i> Newstead	---; ubiquitous; 13	Archibald	1922
	---; ---; 115	Maillet	1961b.
	---; riverine bush; 163. ---; ---; 361.	Langridge et al.	1963
	---; ---; 319. ---; near lake; 320	Mouchet & Bernacca	1963
<i>fuscipes</i> <i>fuscipes</i> Newstead	---; ---; 44	Maillet	1961a.
	---; near basins of water courses, edges of large rivers and streams, marshy ground, savannahs, gallery forests; 61	Mouchet et al.	1959

TABLE - BITING FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>GLOSSINA</i>			
<i>fuscipes</i>	---; naturally infected with <i>Trypanosoma gambiense</i> ; 61*, 319	Maillo	1953
<i>fuscipes</i> Newstead (cont.)	---; ---; 71. ---; forest and savannah; 111. ---; near river; 115, 206*	Maillo	1961b.
	---; in large forest and savannahs; 319	Finelle et al.	1963
	---; mountain region, altitude 1,000 m.; 319	Finelle et al.	1963a.
<i>fuscipes</i> <i>quanzensis</i>	---; ---; 14	de Sousa Santos	1956
	---; naturally infected with <i>Trypanosoma gambiense</i> ; 44, 111	Maillo	1953
	---; present all year; 44	Maillo	1958
	---; forest gallery, marshy forest, near rivers, naturally infected with <i>Trypanosoma gambiense</i> ; 206*	Maillo	1961b.
	---; swamps; 320*	Langridge et al.	1963
<i>fuscipleuris</i> Austen	---; ---; 13	Bedford	1930
	---; along small water courses bordered by heavy vegetation; 44	Hegh	1934
	---; most active in morning; 44	Lewis	1937
	---; ---; 44. (Bites man)	Zumpt	1936
	---; ---; 112. (Species of dense forest galleries, diurnal, bites man between 2 and 7 p.m., bites widely.)	Gaschen	1945
	Dense riverine thickets; ---; 163	Lewis	1939
	---; thick vegetation on river, backwaters, gullies, bites at dusk; 163*	Patton	1936
	---; a relic species in a small area of rain forest; 163, 364	Ford	1963a.
	---; ---; 226	Weitz	1963
	---; in forest galleries and dense forest; 319	Finelle et al.	1963
	---; savannah; 319	Yvone	1963
	---; base of trees and termite mounds, thickets, riverine vegetation, forest; 320	Langridge et al.	1963
<i>haningtoni</i> Newstead & Evans	---; ---; 44	Schouteden	1927

TABLE 1 - BITING FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>GLOSSINA</i> <i>haningtoni</i> Newstead & Evans (cont.)	---; along rivers; 61. (Species of large tropical forest, found in cacao plantations on edge of dense forest, attack voraciously at late afternoon.)	Gaschen	1945
	---; forest, montane vegetation; 61	Ford	1963
	---; ---; 111. ---; forests; 206	Maillot	1953a.
	---; very rare, one specimen collected in river ford in forest on savannah edge in June; 115. ---; mountainous and forest regions with numerous streams; 226	Galliard	1933
	--- July, along river; 206	Maillot & Taufflieb	1955 (1956)
	---; ---; 206. (Shady forest, edge of rain forest, bites man.)	Zumpt	1936
	--; active at twilight, leaves on bushes, sometimes at night; 226°	Zumpt	1937
	---; ---; 319	Finelle et al.	1963a.
	---; forest; 320	Langridge et al.	1963
<i>longipalpis</i> Wiedemann	---; ---; 14, 307. ---; along rivers; 89, 131, 273. ---; along coasts; 123. ---; forest zones up to the coast; 156. ---, along coasts and hinterland; 279. (In forest clearings on the edges of large equatorial forests, savannahs along coasts and rivers, thicket regions, needs light and humidity, diurnal, 9-10 a.m. and 3-4 p.m., will bite at night; bites man whenever animals are not around.)	Gaschen	1945
	---; open country with grass and thickets, edges of dense forest near water; 44. ---; Mar.-July, transitional forest, inland and coastal savannah; 123	Patton	1936b.
	---; ---; 57. Close to the base of the trunk of <i>Elaeis guineensis</i> ; transition forest, in <i>Elaeis guineensis</i> , Bombax, naturally infected with <i>Trypanosoma gambiense</i> ; 123. ---; ---; 273	Buxton	1955
	---, ---; 61, 132. Mar.-July, with May as peak; ---; 123. (Tree trunks, fallen trees, rain forest, transitional and inland forests, forest edges, water runs, bites man if there are no other animals.)	Zumpt	1936
	---; clumps of brushwood along inner edge of forest near rivers, among Acacia, prevalent Jan. and Feb., coastal area, July, Aug. central area; 89. ---; open country, damp areas bordering forest; 123	Austen & Hegh	1922

TABLE 1 - BITING FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>GLOSSINA</i>			
<i>longipalpis</i> Wiedemann (cont.)	---; dense woodland, oil-palm thicket; 115	Hutchinson	1953
	Under large logs, heavy vegetation on river banks; thick secondary bush; 123	Pomeroy & Morris	1932
	---; inactive during night, peak activity 10-11 a.m.; 123. ---; areas with a rainfall of more than 45" annually; 131	Langridge et al.	1963
	---; greatest period of activity 8 or 9 a.m. to mid-day and again in mid-afternoon; 123. ---; (not found in areas where rainfall less than 45"), under logs and riverine areas, dry season forest islands, rainy season in wooded savannah; 226*. ---; restricted to open bush, bamboo clumps; 279*	Glover	1961
	---; enters houses, along rivers; 123	Simpson	1914
	---; laboratory vector of <i>Trypanosoma gambiense</i> ; 123	Morris	1932
	---; vegetation; 163, 284	Ford	1963a.
	---; ---; 175. (Near coast)	Roubaud	1922
	Fringed forest in shade, under logs and trunks of fallen trees; riverine vegetations, fringed forest vegetations, enters vehicles, naturally infected with human sleeping sickness; 226*	Davies	1962
	---; forest island, pools, vegetation, transitional forest, savannahs; 226	Page	1959a.
	---; savannah grasslands; 226	Jordan	1961
	---; savannah forest; 279	Simpson	1913
<i>longipennis</i> Corti	Not confined to riverine thickets; arid savannah and subdesert conditions, dry wooded steppe, dry coastal scrub; 13, 102, 163, 284, 320, 364	Ford	1963a.
	---; ---; 13, 320. (Thorny bushes, dry savannahs)	Zumpt	1936
	---; ---; 13. (Carrier of trypanosomiasis)	Bedford	1930
	---; near marshes of lakes; 102	Ovazza	1956
	---; ---; 102. (Nocturnal feeder, transmits <i>Trypanosoma dimorphon</i> experimentally)	Patton	1936
	Logs, leaning tree trunks, stumps of felled trees, near shrubbery or wooded thickets, in savannah, thicket on lava in wet season; log sites and shady side of tree trunks, undersides of branches of multi-stemmed trees with easy access to game paths, in dry savannah country; 163	Langridge et al.	1963

TABLE 1 - BITING FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY, DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>GLOSSINA</i>			
<i>longipennis</i>	Log., leaning tree trunks and stumps of felled trees near shrubby or woody thickets; ---; 163	Lewis	1942
Corti (cont.)	---; in patches of Acacia and Commiphora with water-holes, thicket patches in open savannah; 163°	Weitz et al.	1960
	---; enters railway cars at night, moist swampy areas; 163	Austen & High	1922
	---; very active at sunset; 163	Power	1964
	---; semi-desert; 163	Napier-Bax	1943-1944
	---; ---; 284, 344. (Savannahs with vegetation)	Gaschen	1945
	---; ---; 320, 359. (Suspected vector of trypanosomes)	Ghidini	1938
	---; open scrub with semi-desert grass and vegetation patches along stream with permanent pools; 364	Potts	1937
<i>medicorum</i>	---; ---; 89. ---; river banks with dense vegetation or woods; 123. ---; along rivers; 175. (Larvae under rotting tree trunks; adults in dense forests and dense forest galleries)	Gaschen	1945
Austen	---; ---; 111, 131. ---; Nov., on plain, edge of marshy forest zone; 115. ---; forest; 156, 324	Maillot	1956 (1957)
	---; near coast; 115. ---; savannah forests, evergreen forest and transitional forest, secondary thicket; 123. ---; savannah forest; 163.	Jordan	1963
	Under large logs in tall, heavy vegetation on river banks; secondary bush and shade of thicket on river bank, 123	Pomeroy & Morris	1932
	---; savannah forest; 123	Patton	1936a.
	---; riverine vegetation, savannah; 131. ---; forest, savannah; 320	Langridge et al.	1963
	---; forest islands in savannahs, riverine forests; 226	Jordan	1961
	---; forest outlying savannahs; 226	Jordan	1962
	---; ---; 248. (Fallen tree, shade of thickets on rivers edge)	Zumpt	1936
<i>montana</i>	In loose soil under shade of rocks; under leaves of mud-walled thatched huts; 13	Ruttledge	1928
Westwood			

TABLE 1 - BITING FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>GLOSSINA</i> <i>moritans</i> Westwood (cont.)	Palm crees, logs, fallen trees, in open woodland, clump thickets, thick vegetations near water course; savannahs, drainage lines; 13. Cattle tracks; enter vehicles, drainage line vegetation; 226°	Davies	1962
	---; many types of trees and vegetation in ridges, valleys, drainage lines; 13°	Reid	1955
	Residual forest islands, small thickets, margins of river beds, logs and fallen trees; ---; 13. ---; one of the most important vectors of human trypanosomiasis; 14*, 43*, 163*, 214*, 230*, 320*, 321*, 344*, 364*. ---; savannah woodlands; 14. Dry season; ---; 226. ---; below an altitude of 4000' above sea level; 292. ---; Acacia woodland; 320. ---; under logs, rot holes in trees; 364. (incompatible with a high human population density)	Langridge et al.	1963
	---; transmits <i>Trypanosoma brucei</i> ; 13. ---; savannah, 44, 117, 226. ---; savannah near game; 89. ---; ---; 206. ---; savannah, found near paths and tracks often in great numbers; 113. Near tree roots under humus; near game rest areas, savannah, low sedge and vleis near shade, migrates with cattle; 214. Hollows in trees, crevices, below trees or branches, beneath dead trees, among leaves and twigs, sunny places, termite mounds, animal burrows, sandy soil; by tracks, paths near salt-licks, dry season found at forest edge in bushes, in wet season (July) in grassy areas, naturally infected with <i>Trypanosoma rhodesiense</i> ; 227 ---; biting peak at beginning and end of dry season, prefers to rest on baobab trees, naturally infected with <i>Trypanosoma rhodesiense</i> ; 230. Mold and humus between roots of large trees, bordering rivers, sand bed of river, sandy and soft soil, kraals; low lying grassland; 292. ---; long grass areas with scattered trees; 320. ---; most active in mild weather, feeds shortly after sunrise and in cool afternoons and evenings; 344.	Austen & Hegh	1922
	---; ---; 14, 344	Holstein	1948
	---; vegetation, river swamps and delta; 42	Wilson et al.	1963
	---; ---; 43, 362	Mouchet & Bernacca	1963
	Loose, dry soil; ---; 44	Hegh	1934
	Parks, places near water; ---; 44	Schwetz	1915
	---; tree trunks, larger branches of trees and creepers; 44	Schwetz	1918
	---; leaves, naturally restricted to belts; 44	Schwetz	1917
	---; naturally infected with sleeping sickness; 44	Schwetz	1913

TABLE 1 - BITING FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>GLOSSINA</i>			
<i>morsitans</i>	---; ---; 44°	Schwetz	1927
Westwood (cont.)	---; ---; 54. ---; hill tops; 320	Ford	1954
	---; ---; 57, 111. ---; savannahs; 117. Under fallen timber, dead leaves, in hollow trees, up to six feet from the ground, below branches, burrows of large and smaller animals, termite nest in rotten, upright stumps, hollow in old termite mounds; naturally infected with <i>Trypanosoma brucei</i> ; 227. Open woodland, close to waterholes, dry sandy riverbed; ---; 292°. ---; ---; 320+. ---; experimentally infected with <i>Trypanosoma rhodensiense</i> ; 364.	Buxton	1955
	---; ---; 61	Gilbert	1937
	---; very common; 71	Muraz	1922
	---; river valley, clear savannah; 102	Ovazza	1956
	---; Oct.; 112	Mornet & Morel	1958
	---; along river, open woodland of plateau country; 115	Hutchinson	1953
	---; in houses during daytime; 117°	Bertram et al.	1958
	---; thick brush, swamps; 117	Curson & Neitz	1937
	In burrows of bush pig and wart-hog; ---; 123	Simpson	1918
	---; along rivers; 123	Simpson	1914
	---; woodland savannahs; 123	Pomeroy & Morris	1932
	---; along river; 131	Joyeux	1915
	---; ---; 156	Rodhain	1916a.
	Under logs; ---; 214°	Swynnerton	1921
	---; naturally infected with trypanosomes; 214, 226, 292, 361, 364	Ford & Leggate	1961
	---; naturally infected with <i>Trypanosoma rhodensiense</i> ; 214	Hughes	1919
	---; ---; 225, 307, 324	Roubaud	1922
	Under logs and palm leaves: small thickets in open woodland savannah; 226	Nash	1940

TABLE 1 - BITING FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>GLOSSINA</i> <i>moreitana</i> Westwood (cont.)	Pupae found under seedling palms, flood plain area, associated with swamp zone, in dry season retreats to forest inlands and thickets in flood plain, generally open woodland fly, may concentrate at stream head water and spread downstream in riverine vegetation; 226	Glover	1961
	Sand below bushes, stream bed; naturally infected with Trypanosomiasis; 226	Johnson & Lloyd	1923
	---; forest islands in savannahs, riverine forests; 226	Page	1959
	---; in savannah woodland during wet season; 226	MacLennan & Aitchison	1963
	Beneath fallen or felled trees; ---; 227	Dollman	1915
	Earthholes; ---; 227	Kinghorn et al.	1913
	---; maximum breeding season activity end of dry season (usually in Nov.); 227, 230. Found in six types of breeding areas: 1) mopane forest (the most heavily infested area), 2) thickets, 3) <i>Braconysetegia-Berlina</i> forest on stony, well-drained ground above mopane (last two areas used until leaf-fall in Oct.), 4) dense thorn thickets on alluvial soils close to rivers, 5) low scrub, 6) open vleis, in mopane forest throughout both wet and dry seasons, in dry season can be found in dry river beds in sand and debris; ---; 292	Chorley	1929
	---; active during day, end of June to mid-Mar.; 227°	Lloyd	1912
	---; ---; 227*	Eckard	1913
	Buried in soil at the base of trees, dry season; active in morning and afternoon, especially between 10 a.m. and 4 p.m.; 230°	Newstead	1914
	Beneath fallen or decaying trees in shade and free from moisture, paths near water holes; ---; 230	Lamborn	1916
	---; on plain near lake; 230	Steele	1958
	---; ---; 230. (Shady loose earth, under bushes in sand and humus, under fallen trees, tree holes, under over-hanging rocks, entrance of burrows, cracks of termite nests, forest clearings with grassy growth, watering places of animals and treeless steppes, diurnal, bites man, transmits sleeping sickness.)	Zumpt	1936
	---; ---; 273	Roubaud	1915
	---; in dense riverine vegetation in hot weather; 292	Ford	1963

TABLE 1 - BITING FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>GLOSSINA</i>			
<i>morsitans</i>	---; found in <i>Brachystegia tamarindoidea</i> ; 292	Farrell	1961
Westwood (cont.)	---; all year; 292	Boyt et al.	1963
	---; ---; 292*	Morr's	1958
	---; along roads, attacks man; 319*	Jamot	1920
	---; ---; 319	Patton	1936a.
	Grass tufts, crevices of ant hills, under fallen tree trunks; paths; 320	Duke	1919
	---; experimentally infected with <i>Trypanosoma gambiense</i> ; 320	Ccrson	1938
	---; miombo wooding; 320, 364*	Napier Bax	1943- 1944
	---; July, Aug., Jan., Sept.; 320	Robertson & Bernacca	1958
	---; along rivers; 320	Morris	1960b.
	---; ---; 361*	Evans et al.	1957
	---; savannah; 362	Rupp	1952
	---; all year; 362*	van den Berghe & Lambrecht	1962
	<i>Isoberlinia-Brachystegia</i> woodland and thickets along river, in mixture of loose soil and humus; ---; 363	van den Berghe & Lambrecht	1954
	<i>Brachystegia microphylla-Berlinia</i> hills, under logs, in holes of trees, at base of trees; feeding grounds are roas or open "mbugas" low-lying land that in dry season are characterized by hard, cracking, "black cotton" clay, and in wet season by becoming marshland, present all year with peak in Feb., drops in May or June and rises in Aug., reach minimum density in Sept.-Oct., females will bite man in numbers when hunger has driven them to the feeding-grounds, feeds along fringes of habitat and paths, adults concentrate during dry season; 364*	Nash	1933
	In logs, young palms, old palms, leaning trees, rot holes, thickets, tree bases, tree stumps, animal burrows, rocks; <i>Brachystegia-Pseudoberlinia</i> woodland habitat; 364	Harley	1954
	Vegetation, especially trees, canopy woodland; thorn associations, savannah; 364	Potts	1937
	---; diminishing Aug.-Sept. and Nov.-Dec., peak May-June; 364	Maclean	1926

TABLE 1 - BITING FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>GLOSSINA</i>			
<i>morsitans</i> Westwood (cont.)	---; acacias, low savannah; 364	Swynnerton	1925
	---; w. leaved bush; 364	Willett	1963
	---; <i>Brachystegia</i> areas; 364*	Swynnerton	1923
	---; all year; 364	Foster et al.	1961
	---; 364**	Apted	1962
<i>morsitans</i> var. <i>morsitans</i> Westwood	---; ---; 13, 14, 43, 214, 322, 344*. (In cool and shaded places, on loose soil under fallen tree trunks, under dead leaves and holes on ground, species of savannahs. In thorny brush in the sun, bites man at day, rarely at night, dreadful vector of human <i>Trypanosoma rhodesiense</i> in East Africa)	Gaschen	1945
	---; ---; 42	Langridge et al.	1963
	---; ---; 44, 100, 230	Zurro	1936
	---; Jan., dry savannah, peak 10 a.m.-3 p.m.; 102	Ovazza	1956
	--- ---; 227	Aspinall et al.	1961
	---; ---; 292	Buxton	1955
	---; experimentally infected with <i>Trypanosoma rhodesiense</i> and <i>Trypanosoma brucei</i> , specimens imported from Tanganyika; 320	Baker & Robertson	1957
	---; ---; 359	Ghidini	1938
	Under logs, rot-holes in trees, animal burrows, rock-sites, woodlands; 364	Glasgow	1961
<i>morsitans</i> <i>orientalis</i> Vanderplank	---; ---; 214, 320, 334	Langridge et al.	1963
	---; ---; 227	Aspinall et al.	1961
	---; naturally infected with trypanosomes; 292	Ford & Leggate	1961
	---; ---; 322	Fraga de Azevedo et al.	1960
	---; attacks all day; 364*	Welch	1960
<i>morsitans</i> var. <i>pallida</i> Shircore	---; ---; 230	Shircore	1913

TABLE 1 - BITING FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>GLOSSINA</i> <i>morsitans</i> var. <i>paradoxa</i> Shircore	---; ---; 230	Shircore	1913
<i>morsitans</i> var. <i>submorsitans</i> Newstead	---; ---; 13, 57. ---; larvaposits, under trees, in open savannah near small waterholes, attacks man in hot sun; 123°	Austen & Hegh	1922
	---; along river bands; 44, 61, 131, 156, 206. ---; ---; 89, 112. ---; throughout the country up to the coasts; 117, 132. (In cool and shaded places, on loose soil under fallen tree trunks, under dead leaves and holes on ground, species of savannahs. In thorny brush in the sun, bites man at day, rarely at night, affects animals primarily.)	Gaschen	1945
	---; ---; 111	Maillot	1961
	---; ---; 117, 273. ---; naturally infected with trypanosomes; 123, 132. Under willows and fallen logs, on river banks, open woodland; 226°	Buxton	1955
	---; savannah woodlands; 131. ---; potential vector of <i>Trypanosoma gambiense</i> ; 226	Wilson	1960
	---; ---; 163, 320	Langridge et al.	1963
	---; in savannah and forests, in open orchards, along drainage lines; 226	Mahood	1963
	---; naturally infected with <i>Trypanosoma brucei</i> ; 226	Jordan	1964
	---; naturally infected with trypanosomes; 226	Ford & Leggate	1961
	---; along river; 226	Kirkby & Blasdale	1960
	---; ---; 307	Zumpt	1936
	---; savannahs; 319	Finelle et al.	1963a.
<i>morsitans</i> <i>submorsitans</i> race: <i>congolensis</i> Vanderplank	---; ---; 44	Vanderplank	1949
<i>morsitans</i> <i>submorsitans</i> race: <i>gambiensis</i> Vanderplank	---; ---; 117	Vanderplank	1949

TABLE 1 - BITING FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>JOCCUTIA</i> <i>mersiana</i> <i>submersiana</i> race: <i>agilis</i> ? Vander- plank	---; ---; 320	Vanderplank	1949
<i>mersiana</i> <i>agilis</i> Vanderplank	---; ---; 13	Lewis	1955
<i>naui</i> Potts	---; ---; 14, 115. ---; dense forest; 226	Jordan	1963
	---; forest, montane vegetation; 61	Ford	1963
	---; July, forest; 206. ---; May; 319	Mailliot & Taufflieb	1955 (1956)
	---; rain-forest; 226	Jordan	1961
	---; large forest; 319	Finelle et al.	1963
<i>newsteadii</i> Austen	---; large forest; 14	Mailliot	1962
	---; river bank; 44	Patton	1936b.
	---; active morning and evening; 44	Austen & Hegh	1922
	---; rain forest, in boats or near rivers; 44	Zumpt	1936
	---; forests; 61, 115, 206	Mailliot	1953
	---; ---; 319	Finelle et al.	1963
<i>nigrofusus</i> Newstead	---; ---; 44, 131, 206. ---; along coasts; 175. ---; along rivers; 226. (Along edges of tropical forests, in forest clearings, and galleries, bites man during day)	Gaschen	1945
	--- forest, montane vegetation; 61	Ford	1963
	---; wooded savannahs; 111. ---; outskirts of dense forests, great tropical forests in the border of for- est clearings, forest galleries; 123.	Jordan	1963
	---; brush path, enters houses; 123°	Austen & Hegh	1922
	---; savannahs; 125	Jordan	1961
	---; ---; 156, 279. (Forest species, enters houses, bites man)	Patton	1936

TABLE 1 - BITING FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>GLOSSINA</i>			
<i>nigrofusca</i> Newstead (cont.)	Dense tropical rain forest; bites man in morning; 165°. Densely shaded sandy patches on river banks; bites at night; 226°	Bequaert	1946
	---; bites by day; 175°	Bequaert	1930
	---; active at twilight, jungle forest, bites pain- fully; 226°	Zumpt	1937
	---; rain forest; 226	Jordan	1962
	---; ---; 319	Maillot	1953
	---; ---; 320	Napier Bax	1943- 1944
<i>nigrofusca</i> <i>hopkinsi</i> Van Emden	---; ---; 44, 320	Van Emden	1944
	---; ---; 319	Finelle et al.	1963
	---; ---; 320	Buxton	1955
<i>nigrofusca</i> <i>nigrofusca</i> Newstead	---; ---; 44, 61, 279	Buxton	1955
<i>pallidicera</i> Bigot	---; forest, brush; 44	Hugh	1934
	---; rain forest on fallen trees; 61. ---; ---; 175, 206, 279. (In dense rain forest, fallen trees)	Zumpt	1936
	---; Mar.-Nov., bites in morning and evening; 61°	Guibert	1927
	---; collected one specimen on river bank on edge of forest and savannah; 115	Galliard	1933
	---; deep in forest near water; 123. ---; in large forests near coasts; 156. ---; ---; 163. ---; near coasts; 226. (Species of large tropical forests with dense vegetation and marshy grounds, humid forests. bites man avidly, essentially diurnal)	Gaschen	1945
	---; ---; 131. ---; collected in Aug., and Oct., diurnal; 175	Bequaert	1930
	---; bites man in daylight in forest along trails away from water; 175°	Bequaert	1946
	---; rest on fallen logs, low down on leaves, but- tresses of trees along forest paths, in sunny, rela- tively open glades in forest; 226	Jordan et al.	1961
	---; dense forest, rain forest, enters building, bites man; 226°	Zumpt	1937

TABLE 1 - BITING FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>MOSQUITO</i>			
<i>pallidipes</i> Bigot (cont.)	---; Nov.-Dec., rain-forests; 226 ---; forest; 319	Jordan Maillot	1961 1962
<i>pallidipes</i> <i>newsteadii</i> Austen	---; ---; 319	Finelle et al.	1963a.
<i>pallidipes</i> <i>pallidipes</i> Bigot	---; rain forest; 61. ---; forest edges; 115 ---, ---; 319	Ford Finelle et al.	1963 1963a.
<i>pallidipes</i> Austen	---; ---; 13, 359 ---; ---; 14, 131, 156, 226, 275. ---; mainly found in transitional forest, inland and coastal savannahs; 123. (Important vector of <i>Trypanosoma gambiense</i> and <i>Trypanosoma vivax</i>) ---; ---; 43 Under fallen leaves; forest clearings, most active between 3-5 p.m.; 44. ---; ---; 230, 292, 322. (Tree roots and under shady bushes; damp savannah forests, dense forests and dry savannahs, gallery forests of waters, bites early in morning and late afternoon, prefers dark colors, bites man) Light, sandy soils; along roads and paths in orchard bush or well-wooded savannah; 44. ---; Aug.-Sept., enters railway cars, bites at night; 163°. ---; attacks up to dark and in moonlight; 214°. Under surface soil, among roots of trees, banana plants, and beneath layer of dead leaves shaded by low shrubs or herbage in dry soil; wooded spots with low dense bush near stagnant or slow moving water, banana and rubber plantations, sunny days bites dawn 8 a.m.-4 p.m. to night fall, bites all day or cloudy days; 264°. ---; forest paths in long grass; 320. ---; acacia thick- ets; 322 Light and dry sandy soil, shrub, thicket, tree branches, near permanent water; ---; 44 ---; tree trunks, larger branches of trees and creepers; 44 ---, along rivers; 44. ---; ---; 284. (Breeds on base of shaded bushes near water, forest galleries, damp forest clearings, active early in the morning and late afternoon, active all day on cloudy day. bites man, suspected vector of <i>Trypanosoma gambiense</i>) ---; nocturnal; 54	Ghidini Patton Vanderplank Zumpt Austen & Hegh Hegh Schwetz Gaschen Woosman	1958 1936b. 1949b. 1936 1922 1934 1918 1945 1914

TABLE 1 - BITING FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>GLOSINA</i> <i>pallidipes</i> Austen (cont.)	---; near lake savannah with forest galleries, dense secondary forest, Jan.-Feb., naturally infected with <i>Crithidia</i> ; 102	Ovazza	1956
	In dry season in shady riverine vegetation, in rainy season in drier bushland; all year round, in all types of vegetation, most important vector of Trypanomiasis; 163	Wilson	1952
	Coral rag thicket and forest; in all types of vegetation, in denser vegetation during dry season and lighter vegetation during wet season; 163	Moggridge	1950
	Evergreen shrubs, chiefly <i>Cratogeomys</i> sp., with scattered tree canopy, sandy soil rich in humus; ---; 163	Parsons	1954
	Thick bush on banks of rivers; ---; 163	Lewis	1942
	---; naturally infected with <i>Trypanosoma rhodesiense</i> ; 163	Heisch et al.	1953
	---; homogeneous vegetation, regenerated forest, unbroken thicket, dense and light vegetation; 163. ---; young, regenerating forest with broken canopy, broken thicket between forest, and open grassland, along rivers; 120*	Morris	1960
	---; open places with vegetation, May, peak afternoon; 163	Glasgow	1958
	---; savannah; 163. ---; semi-arid country; 364°	Moggridge	1949
	---; diurnal; 163, 214, 292	Leggate & Pilon	1961
	---; ---; 163*	Glover	1963
	Under logs; ---; 214°	Swynnerton	1921
	---; naturally infected with trypanosomes; 214, 292, 320, 322, 361, 364	Ford & Leggate	1961
	---; abundant in rainy season; 214	Lesne	1929
	---; ---; 227	Willett	1958
	---; ---; 230, 292. (Species of open savannahs of Africa)	Bequaert	1930
	Deciduous thicket, preferred horizontal growing trees and logs; ---; 284	Moggridge	1936
	---; ---; 284. ---; naturally infected with <i>Trypanosoma brucei</i> ; 322. ---; thickets, short grass, coconut palms, daytime; 364°	Buxton	1955

TABLE 1 - BITING FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>GLOSSINA</i> <i>pallidipes</i> Austen (cont.)	---; found in <i>Brachystegia terminaloides</i> woodland; 292	Farrell	1961
	---; diurnal, thick riverine vegetation; 292	Pilson & Leggate	1962
	---; throughout year; 292	Ford	1963
	---; ---; 299	de Toit	1954
	Under fallen trees or base of trees; ---; 320	Chorley	1944
	---; thicket, secondary vegetation; 320	Glasgow	1961
	---; Jan., savannah; 320	Robertson & Bernacca	1958
	---; active on moonlight nights and by day; 320	Chorley & Hopkins	1942
	---; seasonally waterlogged grasslands; 320	Smith & Rennison	1961
	Rich numus, loose soil under shrubs and bushes under the shade of trees, wild reservation; savannahs, actively breeding all year, peak Aug. and Sept., very few in Feb.-Mar., another peak in May; 322	Fiedler	1950
	Low growing bush, shady places, dry sandy loam, rich and humus, artificial containers; ---; 322	Anonymous	1922
	Evergreen thickets near water; ---; 322. Thickets at river sides and by wet season pans, under logs, in holes of trees, at base of trees, <i>Berlinia-Brachystegia</i> woods; ---; 364	Nash	1933
	---; river banks, among trees, attacks during daytime; 322	Fuller & Mossop	1929
	---; present throughout year; 322	Bedford	1926a.
	---; Aug., Sept.; 322	Bouvier	1945
	---; thickets on termite mounds; 361°	Van den Berghe & Lambrecht	1956
	---; ---; 361*	Evens et al.	1957
	Thickets; ---; 364°	Swynnerton	1923
	---; possible vector of <i>Trypanosoma rhodesiense</i> ; 364	Fairbairn	1943
	---; savannah woodlands, Jan.-Sept.; 364	Foster et al.	1961
	---; miombo and thorn-bush area; 364	Nipier Bax	1943-1944
	---; Nov.-Aug.; 364	Vanderplank	1944

TABLE 1 - BITING FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>GLOSSINA</i>			
<i>pallidipes</i> Austen (cont.)	---; low savannah; 364	Swynnerton	1925
<i>palpalis</i> (Robineau-Desvoidy)	---; bites man day and night; 13*	Cantlie	1923
	---; rivers, streams; 13	Hunt & Bloss	1945
	---; savannahs without vegetation except for tall grasses near or far from water; 14, 123, 206, 320. Dry sand along river banks under fallen tree trunks or near palm trees; most common species, most common in savannahs near marshes more than in forests, numerous at the beginning of rainy season (Sept.), diminishes in Oct. when there is heavy precipitation in house at night, attacks man in open sunlight and near rivers, near water and shade in dry season, does not enter dense forests; 115°. ---; near water and shade in dry season, does not enter dense forest, in rainy season in places without vegetations; 248. ---; abundant in two months after the rainy season; 344	Galliard	1933
	---; along river banks; 14, 89, 102, 131, 156, 273, 279. ---; near river and lakes; 44. ---; ---, 112. (Larvae in shade and relatively dry sandy grounds, under trees such as bananas, figs and palms. Adult in dense humid forests in thick shade, forest galleries along rivers, around water hidden by vegetations, always found in dampest and hottest places, exclusively diurnal, attacks man viciously, found around human habitations, transmits <i>Trypanosoma gambiense</i> and <i>Trypanosoma rhodesiense</i> .)	Gaschen	1945
	Wooded banks of waterways, in sand or sand mixed with earth; ---; 44	Schwetz	1919
	---; narrow strips of forest near water courses, boards steamers; 44. ---; savannahs, moves with game; 89. Moist-decaying humus beneath over-hanging trees; avid feeder; 123°. ---; ---; 225. Found in reeds near lake shore; ---; 364.	Austen & Hegh	1922
	---; very abundant in the mangrove swamps along the mouth of the Congo, in forest, near the sea shore; 44	Bequaert	1915
	---; inhabits thickets, occur and breed permanently at considerable distance from water; 44	Schwetz	1922
	---; tree trunks, larger branches of trees and creepers; 44	Schwetz	1918
	---; suspected vector of trypanosomiasis; 44, 206	Clapier	1920
	---; lakeshores, rivers, streams; 54*	Napier Bax	1943- 1944

TABLE 1 - BITING FLIES (continued)

SPECIES	BREEDING HABITATS, ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>GLOSSINA</i> <i>palpalis</i> (Robineau-Desvoidy) (cont.)	In shade, hollow trees; ---; 57. ---; ---; 106, 111°, 113. Dense vegetation on bank of dry streambed fallen logs; banks of rivers and streams; 113°. ---; naturally infected with trypanosomes; 132. Thickets, base of banana tree, among sugar canes, fallen <i>Chlorophora</i> ; ---; 163. In forest; river banks, clearing in forest; 175°. ---; ---; 206°. ---; naturally infected with trypanosomes; 226°. River banks, clearing in forest; base of <i>Elaeis guineensis</i> , oil palms; 279. Dry beaches of sand and gravel close to shore, shadowed by dense trees, among dry vegetable debris; riverine, in long grasses, dense humid forest, often settles on sunflowers; 320°	Buxton	1955
	---; Mar.-Nov., bites in morning and evening; 61°	Guibert	1937
	---; along river bank; 61	Rousseau	1918
	---; rare, forest as favorite habitat; 71	Muraz	1922
	---; riverbanks; 71. ---; water courses; 319. (Vector of <i>Trypanosoma gambiense</i> , lies in forest galleries of water courses)	Jamot	1920
	---; wooded banks of river; 8°. ---; damp forest; 115, 156, 206	Roubaud	1913
	---; river valley; 102	Ovazza	1956
	---; river banks with high grass; 111	Ringenbach	1912
	---; along rivers; 111	Ringenbach & Guyomarc'h	1915
	---; ---; 115*	Hutchinson	1953
	---; sole vector of human trypanosomiasis; 117*. Along creeks, by mouths of rivers in vegetation fringing dry land; savannah, coastal mangrove belt, sole vector of human trypanosomiasis; 279*	Hutchinson	1954
	---; in houses at daytime; 117	Bertram et al.	1958
	---; thick brush, swamps; 117	Curson & Neitz	1937
	Thick bush away from rivers, dense shade of vegetation overhanging partially dry water courses; concentrates around fords, villages, water-holes; 123°	Pomeroy & Morris	1932
	---; river banks, mangrove swamp; 123	Simpson	1914
	---; principal vector of human trypanosomiasis; 123*	Scott	1961
	---; found at water-holes; 123	La Croix	1961
	---; ---; 123*	Willet	1962

TABLE 1 - BITING FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>GLOSSINA</i>			
<i>palpalis</i>	---; humid savannah, more or less wooded, interspersed with forest galleries; 131	Anonymous	1963
(Robineau-Desvoidy)			
(cont.)	---; diurnal, prefers shady places, along rivers, forest, parts of animals and man; 132*	da Cruz Ferreira	1946
	---; mango groves along water-courses; 132	Tendeiro	1947
	In river belt beneath rocks, base of tree trunks and bushes, under vegetable debris, in sand, lake shore, overhanging rocks and logs; sheltered spots on lake shore; 163*	Symes	1925
	---; found up to an altitude of 5,250 feet, along river basin, vegetation fringing rivers and sometimes forming patches of forest; 163	Fairclough & Thomson	1958
	---; newly turned soil in light shade; 163	Symes & Roberts	1937
	---; heavily infesting papyrus, fringes of bays or coast; 163	Duke	1932
	---; Mar., June, Aug.; 163	Glover	1963
	---; ---; 163*	Morris	1960b.
	Dense shade, loose sand, near permanent water, river bank areas, under overhanging roots or under leaves; associated with dense forest near river areas, mangrove creeks near coast, boards cars and buses, sole vector of <i>Trypanosoma gambiense</i> ; 175*	Bequaert	1946
	---; dense riverine, near fords, bridges, water holes, washing places; 175*	Morris	1961
	---; present all year, in forests and forest clearings; 175	Foster	1934
	---; collected Aug., Sept., Oct., creeks, seashore; 175*	Bequaert	1930
	---; forest fringe along rivers and larger streams, anthropophilic; 175	Morris	1962a.
	---; infected with mermithid parasites; 175	Foster	1963a.
	---; peak Aug.-Sept.; 175	Foster	1963
	---; along rivers, naturally infected with <i>Trypanosoma gambiense</i> ; 206*	Mattlot	1961b.
	Sand with vegetable debris or shrub coverage, beneath sloping tree trunk, high sand bank where streams join; shaded torrent streams, inundated or heavy forest of dark evergreens with climbing plants, naturally infected with trypanosomiasis, Sept., Oct., Dec., Jan., Mar., Apr.; 226*	Johnson & Gloyd	1933

TABLE 1 - BITING FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>GLOSSINA</i> <i>palpalis</i> (Robineau-Desvoidy) (cont.)	Shade trees along stream banks or pools; during dry season (Dec. and Jan.) become restricted to river bank areas, peak biting 11 a.m. to 3 p.m.; 226	Glover	1961
	Fringing forests adjacent to savannah woodlands; ---; 226	Nash & Page	1953
	---; not important vector of sleeping sickness, all year, in drier area, not strictly riverine species, far from streams in wet season, even in the rain forest; 226*	Jordan	1961
	---; man is an important host, naturally infected with human sleeping sickness; 226*	Davies	1962
	---; experimental transmission of <i>Trypanosoma rhodesiense</i> on a human volunteer and on rats; 226	Godfrey	1960
	---; experimentally infected with <i>Trypanosoma gambiense</i> ; 226	Wijers & Willett	1960
	---; Isafi-groves, on farms, in houses, thickets, on banks of streams, vector of sleeping sickness; 226*	Duggan	1962
	---; forest country with an annual rainfall of 160 inches; 226	Ford	1963a.
	---; peak between 12 to 3:30 p.m.; 226	Langridge et al.	1963
	---; vector of human trypanosomiasis; 226*	Kernaghan	1962
	---; in houses during wet season; 226	Nash	1960
	---; along water course; 226	MacLennan & Aitchison	1963
	---; near water wells; 226	Rennison	1958
	---; gallery forest; 226	Oldroyd	1957
	---; riverine forest; 226	Davies	1961
	---; diurnal; 226	Page	1959b.
	---; ---; 226*	Kernaghan & Davies	1959
	---; bush; 227	Dunbar-Bruton	1913
	---; brought about complete disappearance in 3 years by use of glue; 243	Bouvier	1945
	-- ; bush and mangrove areas; 273	Roubaud	1915
	Areas around trunks of oil palms; mangrove swamps; 279	Yorke & Blacklock	1915a.

TABLE 1 - BITING FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>GLOSSINA</i>			
<i>palpalis</i> (Robineau-Desvoidy) (cont.)	---; in houses, along rivers, mangrove forest, fresh water swamp, forest and fringing forest areas; 279	Simpson	1913
	---; densely shaded, dry, loose sand covered with plant litter; 279	Bequaert	1946
	---, ---; 279°	Yorke & Blacklock	1915
	---; grassy steppes, enters houses; 307	Luisi	1921
	Dry or gravel beach; vicious biters; 320'	Fiske	1920
	Under fallen trees or base of trees, remote from permanent water, dense humid forest; ---; 320	Chorley	1944
	Dense vegetation along lake shore, streams; ---; 320	MacKichan	1944
	---; lurks along dividing line between shadow and sunlight and frequents paths made by man or wild animals; 320	Thomson et al.	1961
	---; continuous strip of tall trees, dense green vegetation, naturally infected with <i>Trypanosoma rhodiense</i> ; 320	Robertson	1963
	---; bush or forest adjoining streams; 320	Hargreaves	1938
	---; riverine habitat; 320	Morris	1960a.
	---; ---; 320*, 364*	Zumpt	1936
	---; ---; 320*. ---; experimental transmission and infection of <i>Trypanosoma rhodesiense</i> ; 364*	Eckard	1913
	---; ---; 320*	Duke	1921
	---; ---; 324	Roubaud	1922
	---; in the bush, on farms; 344	Martin	1941
	---; lives near water, on plains near rivers; 361*	Rupp	1952
	Shore line with densest vegetation; densest bush along river banks, females promptly attacks man only when hungry, feeds along fringe of habitat and paths, adults concentrate during dry season; 364*	Nash	1932
	---; damp forests; 364	Zumpt	1939
<i>palpalis</i> <i>angolensis</i> Vanderplank	---; ---; 14	Vanderplank	1949a.

TABLE 1 - BITING FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>GLOSSINA</i>			
<i>palpalis</i>	---; trees and bushes along river; 13. (Carrier of trypanosomiasis)	Bedford	1930
<i>fuscipes</i>	---		
Newstead	---; along river, Dec.; 44	Benoit	1952
	---; ---; 71, 206, 319	Maillot	1953a.
	---; ---; 102, 359	Gnidini	1938
	---; ---; 112	Zumpt	1936
	---; forest along river and lakes; 163	Bursell & Glasgow	1960
	Fine tilth, small sticks on loose soil; ---; 163. Shady low branches, shrubs, herbs; ---; 320.	Buxton	1955
	In places far removed from any permanent water; ---, 320	Chorley	1944
	---, usually found near still or running water, in tree-shrub shade area near rocky banks; 320	Austen & Hegh	1922
	---; seasonally water-logged grassland; 320	Smith & Rennison	1961
	---; peak Feb., Mar.; 320*	Lumsden	1952
<i>palpalis</i>	---; ---; 13*	Lewis	1954
var. <i>fuscipes</i>	---		
Newstead	---; ---; 14, 57, 163, 320, 364	Patton	1936b.
	---; ---; 44, 111. (Efficient vector of trypanosomiasis)	Bequaert	1946
	---; ---; 61, 206	Gaschen	1945
	---, vector of <i>Trypanosoma gambiense</i> ; 320*	Morris	1962
<i>palpalis</i>	---; all year, in narrow forest galleries along rivers; 112	Challier	1963
<i>gambienais</i>	---		
Vanderplank	---; ---; 117	Vanderplank	1949a.
	---; vector of sleeping sickness; 175*	Morris	1962a.
	In small rivers and lakes, in banana plantation, in region of "niayes," clay earth containing bodies of water, part of the year, with vegetation of oil palms, in thickly wooded areas near permanent collections of water; 273	Morel	1963
<i>palpalis</i>	---		
var. <i>maculata</i>	---; ---; 44	Schouteden	1927
Newstead			

TABLE 1 -- BITING FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>GLOSSINA</i>			
<i>palpalis</i>	---; ---; 44, 364. (Efficient vector of trypanosomiasis)	Bequaert	1946
<i>martinii</i>	---		
Zumpt	---; ---; 227	Aspinall et al.	1961
	---; most active in the heat, diurnal, needs shade, lives in wooded river banks, near reeds, and banana plantations, May; 361	Rupp	1952
<i>palpalis</i>	---; ---; 44	Gaschen	1945
var. <i>martini</i>			
Zumpt			
<i>palpalis</i>	---; ---; 14, 44	Holstein	1948
<i>palpalis</i>	---; ---; 57	Buxton	1955
(Robineau-Desvoidy)	---; coastal zone, near river basins in large forest, little lakes, marshes in secondary forests, forest galleries, savannahs, little streams; 61	Mouchet et al.	1959
	---; ---; 89. ---; near coast; 226	Roubaud	1957
	---; ---; 106, 113, 123, 131, 132, 156, 279, 307	Zumpt	1936
	---; ---; 115	Maillot	1953a.
	---; naturally infected with <i>Trypanosoma gambiense</i> ; 206	Maillot	1953
	---; mangroves, edge of river and rain forest, plantations, indoors, bites man; 226°	Zumpt	1937
	---; May-July, under shelter of vegetation; 248	Fraga de Azevedo et al.	1956
	---; Apr.-July; 254	Fraga de Azevedo et al.	1960
	---; ---; 267	Fraga de Azevedo et al.	1962
	---; dense and humid large forests; 319	Finelle et al.	1963a.
	---; ---; 324	Hamon & Mouchet	1961
<i>palpalis</i>	---; mangroves; 61	Mouchet et al.	1959
var. <i>rageavi</i>			
Roubaud			

TABLE 1 - BITING FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>GLOSSINA</i> <i>palpalis</i> var. <i>wellmani</i> Austen	---; ---; 13, 14, 44, 117, 227, 279, 319, 344, 364. ---; predominant form; 111. (Important vector of trypanosomes)	Patton	1936b.
	---; found 80 km. from coast; 14*	Manetti	1920
<i>schwetai</i> Newstead & Evans	Under fallen trees near water; active before and after sunset; 44	Hegh	1934
	---; ---; 44. (Sandy places near rivers edge which are covered by fallen leaves; gallery forest, bites day and night.)	Zumt	1936
	---; ---; 111. ---; forests in great mountain of Mayumba; 115	Maillot	1953a.
	---; forest, savannah; 206	Ford	1963a.
<i>schwetai</i> var. <i>disjuncta</i> Potts	---; ---; 44	Schouteden	1927
<i>severini</i> Newstead	---; ---; 44	Schwetz	1934
	---; rain forest; 226	Ford	1963a.
<i>submoritans</i> Newstead	---; ---; 44	Schouteden	1927
	---; ---; 61, 71	Mouchet	1963
	---; ---; 112	Sicé & Torresi	1939
	Small growth on the top of deserted ant hills, under overhanging rocks; ---; 123	Simpson	1918
	---; ---; 132	da Cruz Ferreira	1946
	---; near river, edge of river; 226	Macfie	1913
	---; savannah; 226	Mouchet & Bernacca	1963
<i>swynnertoni</i> Austen	---; ---; 44	Austen	1923
	---; ---; 54	Ford	1954
	Under logs and broken trees in savannah; shady side of trunks and undersides of branches of trees and shrubs: 163. Dry season, in cages with damp soil, undersides of logs, rot-holes; scrub country, undersides of branches of small trees; 364	Langridge et al.	1963
	---; ---; 163, 364. (Breeds on underbrush at base of trees, savannahs, diurnal, attacks man avidly, very probably vector of <i>Trypanosoma rhodesiense</i>)	Gaschen	1945

TABLE 1 - BITING FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>GLOSSINA</i> <i>swynnertonii</i> Austen (cont.)	---; dry thorn-bush; 163, 364*	Napier Bax	1943- 1944
	---; ---; 163. (Savannah woodland species, breeds in thickets)	Lewis	1942
	---; ---; 226. ---; savannahs; 364. (Shady loose ground, under bushes, foot of trees and fallen trees, savannahs, Acacia-savannahs, steppes which become soaked in the rainy season, hardpan soil, diurnal, prefers dark colors, bites man, vector of sleeping sickness)	Zumpt	1936
	---; ---; 227. (Savannah woodlands)	Ford	1963
	---; thicket edge in secondary dry forest, open grassland, seasonally waterlogged; 320	Saunders	1964
	Thickets, in <i>Commiphora fischeri</i> ; naturally infected with <i>Trypanosoma rhodensiense</i> ; 364	Buxton	1955
	Hardpan soil, fallen branches of bush, dry river bed, hollow Baobab tree; ---; 364	Geigy & Herbig	1955
	---; small thickets, open woodlands, savannahs and trees; 364	Potts	1937
	---; abundant species, mainly lives in Acacia woodland; 364*	Patton	1936a.
	---; naturally infected with <i>Trypanosoma congolense</i> ; 364	Vanderplank	1947
	---; on leaves of bushes at night, on branches at daytime; 364	Southon	1960
	---; naturally infected with sleeping sickness; 364	Ford & Leggate	1961
	---; present throughout year; 364	Fairbairn & Culwick	1950
	---; acacia woodland, thornland; 364°	Swynnerton	1923
	---; low savannah; 364	Swynnerton	1925
<i>tabaciiformis</i> Westwood	---; river banks; 14	do Carmo de Sousa Santos	1958
	Under fallen trees; forest, crepuscular; 44	Hegh	1934
	---; forests, frequently encountered than <i>Glossina fusca</i> ; 44, 115, 206, 319	Maillot	1953a.
	---; most active at sunrise and sunset; 44	Schweitz	1919a.

TABLE 1 - BITING FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>MORITINIA</i> <i>tabaniformis</i> Westwood (cont.)	---; near lakes; 61. ---; along coasts; 123, 156, 226. ---; along rivers; 206. (Breeds under fallen tree trunks near forest paths, in great tropical forests and forest galleries, nocturnal, bites man preferably during crepuscular hours and under moonlight)	Gaschen	1945
	---; Mar.-Nov., bites in morning and evening; 61°	Guibert	1937
	---; forest, montane vegetation; 61	Ferd	1963
	---; ---; 71	Maillot	1961
	---; great forest, forest galleries; 111	Jordan	1963
	---; coasts at end of rainy season, diurnal during dry season and nocturnal in Oct., in forests and savannahs, along rivers or in dense vegetation away from water, in houses at night, May-Oct.; 115	Galliard	1933
	---; ---; 123	Simpson	1914
	---; along river, July; 206	Maillot & Taufflieb	1955 (1956)
	---; active at twilight, sometimes at night; 226	Zumpt	1937
	---; most plentiful during rainy season; 226	Langridge et al.	1963
	---; in rain forests; 226	Jordan	1962
	---; common in forests; 226	Page	1959
	---; ---; 254	Patton	1936
	---; ---; 319	Finelle et al.	1963
<i>tachinoides</i> Westwood	---; savannahs; 13. Riverbeds, edge of thickets and forest islands, under logs, low shrubs, sandy soil, in riverine vegetation tall grasses, rests on underside of horizontal branches, enters vehicles, naturally infected with human sleeping sickness, man a very important host; 226°	Davies	1962
	Shaded thicket near water, old hippopotamus tracks; riverine thickets, dense wooded parts of savannahs near rivers, shaded areas, flood zones, residual pools in dry season, all year; 61, 71	Mouchet et al.	1961
	Triangles of leaf sheaths of palms; ---; 61. Along river banks, decaying humus beneath trees; 123. At bases of palms; ---; 279	Simpson	1918

TABLE 1 - BITING FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>GLOSSINA</i> <i>tachinoides</i> Westwood (cont.)	---; along rivers; 61, 89, 112, 131, 156, 225, 273. ---; responsible for introduction and maintenance of human trypanosomes; 61, 112, 324. ---; along coasts; 226. (Breed in sandy grounds between roots of trees, under fallen leaves, holes on ground, river banks, dried up riverbeds under constant shade, savannah edges of forest galleries, in scattered thickets, vector of <i>Trypanosoma gambiense</i> and other trypanosomes, enters houses.)	Gaschen	1945
	---; ---; 61*	Maillot	1953
	---; very common; 71	Muraz	1922
	---; ---; 71*, 102, 319*	Ghidini	1939
	---; peaks for biting May-Aug., found in savannahs in rainy season; 89°. --- river banks, bites after dark; 123°. ---; usually found near river banks; dry season found in sparse vegetation and shaded woods; 226°. (Decaying humus under overhanging trees in continually moist ground in heavy or complete shade; ---;)	Austen & Hegh	1922
	---; steep edges of rivers; 102	Ovazza	1956
	---; ---; 111	Pellissiev	1947
	---; June-Nov., under growth at edge of water-course; 112	Sicé & Torresi	1939
	---; ---; 113, 307. (Sandv gravel shaded by trees, gallery forests by shores. Savannahs, daytime, bites day and night, transmits sleeping sickness)	Zumpt	1936
	---; thick brush, swamps; 117	Curson & Neitz	1937
	Found at bases of palms; ---; 123. Low, straight stemmed bushes close to pools, in rainy season beneath palm fronds and logs in open woodland in dry season on floor of small thickets, forest islands and riverbeds; mango tree areas, abnormal breeding places; grass dumps and sand pockets under rocks in cleared river, shaded dust under hut overhang; activity in hot weather mornings and evenings, in rainy season activity greatest at mid-morning, bites near ground level; 226. (Vector of human trypanosomiasis)	Glover	1961
	Wooded rivers and streams, trees, overhanging rocks; ---; 123	Fomeroy & Morris	1932
	Evergreen shrubs and trees; ---; 123	Stewart	1932
	---; does not appear to be a serious vector of <i>Trypanosoma gambiense</i> when in the presence of <i>Glossina palpalis</i> ; 123*, 226*	Willett	1963

TABLE 1 - BITING FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>GLOSSINA</i> <i>tachinoidea</i> Westwood (cont.)	---; found in forest containing <i>Kegelia africana</i> , <i>Celtis integrifolia</i> , <i>Khaya senegalensis</i> ; 123	La Croix	1961
	---; ---; 123*	Scott	1961a.
	---; humid and dry savannah; 131	Anonymous	1963
	Sandy soil under scanty vegetation; edge of water- courses; 156	Gaschen	1944
	---; ---; 206, 273. ---; abundant species; 226. (Important vector of trypanosomes)	Patton	1936b.
	Along a previously cleared stream floor of a small thatched market stall; riverine vegetation, mango plantation, in wet season ranges freely in flood plain, sacred groves; 226	Kernaghan	1961
	Coarse and fine sand with vegetative debris, wood ash, cracks in baked mud, fibrous loam, gravel practically dry stream bed; naturally infected with trypanosomia- sis; 226	Johnson & Lloyd	1923
	---; dense jungle along small rivers, marshland shaded by trees, thick undergrowth, lower side of twigs and branches; 226	Moiser	1913
	---; moat of town wall choked with thicket, in houses during wet season; 226	Nash	1960
	---; experimentally infected with <i>Trypanosoma gambi- ense</i> and <i>Trypanosoma brucei</i> ; 226	Buxton	1955
	---; along water course; 226	MacLennan & Aitchison	1963
	---; riverine forests; 226	Davies	1961
	---; savannah; 226	Langridge et al.	1963
	---; ---; 226*	Willett	1962
	---; abundant on river banks, very bothersome in season of low waters; 319	Jamot	1920
	---; savannah region; 319	Maillot	1953a.
	---; ---; 324	Roubaud	1922
	---; in the bush on farms; 344	Martini	1941
	---; ---; 364	Potts	1937

TABLE 1 - BITING FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>GLCASSINA</i>			
<i>vanhoofi</i> Henrard	Under logs, low-inclined trees, overhanging earth-banks of certain small streams and sometimes between aerial roots of trees, in most cases soil is moist and loose due to lace work of roots; dense rain forests, rarely attacks man; 44°	Van den Berghe & Lambrecht	1958
	---; Jan., Mar., May, July, Aug., Sept., Dec., equatorial forest; 226	Henrard	1952
	---; rain forest; 226	Ford	1963a.
<i>ziemanni</i> Grünberg	---; ---; 61	Gläser	1914
	---; ---; 112	Austen & Hegh	1922
<i>HIPPOBOSCA</i>			
<i>hirsuta</i> Austen	---; ---; 320°	Neave	1912
<i>maculata</i> Leach	---; ---; 214. (Occasionally bites man)	Bedford	1926
<i>LIFEVOSIA</i>			
<i>schillingsi</i> (Grünberg)	---; bites man by day in open bush; 163°	Lumsden	1955
<i>MELOPHAGUS</i>			
<i>ovinus</i> Linné	---; ---; 322. (Frequently bites man)	Bedford	1926b.
<i>OSCINELLA</i>			
<i>aharonii</i> Duda	---; Sept.-Dec., enters houses; 13	Sabrosky	1949
<i>pallipes</i> Cottam	---; enters houses; 96°	Graham- Smith	1930
<i>STOMOXYS</i>			
<i>bilineata</i> Grünberg	Stables, semi-liquid dung; ---; 344	Cuthbertson	1932
<i>brunipes</i> Grünberg	---; ---; 292°	Cuthbertson	1932
<i>caicitrans</i> Linnaeus	---; Apr.; 8'. ---; experimental transmission of Saharan trypanosomes; 113. ---; ---; 206°. (Larvae in stables)	Surcouf	1921
	---, in houses, very painful bite, May, Oct.-Jan.; 44°	Bouvier	1945
	---; domestic; 44	Bequaert	1913
	---; ---; 54°	Anderson	1919

TABLE 1 - BITING FLIES (concluded)

SPECIES	BREEDING HABITATS · ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>STOMOXYS</i>			
<i>ulciferans</i> Linnaeus (cont.)	---; ---; 65*	Fraga de Azevedo & Moreira	1946
	Mixture of manure and straw, decaying plant material, loose soil with high moisture content, base of Eucalyptus trees; peak in May; 96	Hafez & Gamal- Eddin	1959
	---; probable vector of intestinal and ocular infections; 211*	Gaud et al.	1949
	---; occasionally attacks man; 211	Charrier	1927
	---; experimental transmission of <i>Trypanosoma brucei</i> ; 226	Taylor	1930
	---; ---; 364*	Smith	1955
<i>nigra</i> Macquart	---; ubiquitous, active in daylight; 186°	Adams	1935
	---; experimentally infected with human trypanosomiasis; 226	Macfie	1913
	---; ---; 226°	Oldroyd	1952
	Decaying grass cutting; invades dwellings, vicious biter; 320*	Gibbins	1937
<i>sicaria</i> Rondani	---; ---; 364*	Lumsden	1955
<i>STYGEROMYIA</i> <i>lucorum</i> Austen	---; ---; 163*	Austen	1912

TABLE 2 - SUMMARY OF DISEASES OR DISEASE ORGANISMS TRANSMITTED BY BITING FLIES

SPECIES	DISEASE OR DISEASE ORGANISM					COUNTRY
	VIRUS & RICKETTSIA	PROTOZOA	HELMINTHS	OTHER		
<hr/>						
<i>GLOSSINA</i>						
<i>fuscipes</i>		Trypanosoma				
<i>fuscipes</i>		gambiense				61
Newstead						
		Sleeping				
		sickness				206
<i>fuscipes</i>		Sleeping				
<i>quanzensis</i>		sickness				206, 320
<i>longipalpis</i>		Trypanosoma-				
Wiedemann		sis				226, 279
<i>morsitans</i>		Trypanosoma				
Westwood		rhodesiense				227, 292, 320, 361, 364
		Trypanosoma				
		gambiense				364 (Apted)
		Human try-				
		panosomiasis				14, 43, 163, 214, 230, 320, 322, 344, 364 (Langridge et al.)
<i>morsitans</i>		Trypanosoma				
var. <i>morsitans</i>		rhodesiense				344
Westwood						
<i>pallidipes</i>		Trypanosoma				
Austen		rhodesiense				163, 320, 361
<i>palpalis</i>		Trypanosoma				
(Robineau-		rhodesiense				320, 364 (Erkard)
Desvoidy)						
		Trypanosoma				
		gambiense				13, 54, 123, 175, 226, 320, 361
		Human try-				
		panosomiasis				115, 117, 123 (Scott) 163, 226 (Kernaghan), 279, 320 (Duke)
		Sleeping				
		sickness				132, 206, 226 (Duggan), 361

TABLE 2 - BITING FLIES (continued)

SPECIES	DISEASE OR DISEASE ORGANISM					COUNTRY
	RICKETTSIA	PROTOZOA	HELMINTHS	OTHER		
<i>GLOSSINA</i> <i>palpalis</i> var. <i>fuscipes</i> Newstead		Human try- panosomiasis			13	
		Trypanosoma gambiense			320	
<i>palpalis</i> <i>gambiense</i> Vanderplank		Sleeping sickness			175	
<i>palpalis</i> var. <i>wellmani</i> Austen		Trypanosoma pecaudi			14	
<i>swynnertonii</i> Austen		Trypanosomes			364	
		Trypanosoma rhodesiense			364 (Napier Box)	
<i>tachinoides</i> Westwood		Trypanosoma gambiense			61, 71, 123, 226 (Willett), 319	
		Human try- panosomiasis			123, 226	
<i>STOMOXYS</i> <i>calcitrans</i> Linnaeus				Human myiasis	65	

TABLE 3 - BITING FLIES
(UNCONFIRMED ENTRIES)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>GLOSSINA</i>			
<i>calignea</i> (Austen)	---; diurnal; 106	Gonzalez Vincente	1948
<i>fusca</i> (Walker)	---; green, dark and damp thicket; 132	Fontoura de Sequeira	1935
	---; ---; 275*	Frew	1929
<i>fusca</i> var. <i>congolensis</i> (Newstead & Evans)	---; ---; 61	Vaucel	1943
<i>fuscipleuris</i> Austen	---; ---; 61	Vaucel	1943
<i>longipalpis</i> Wiedemann	---; patches of thick forests of evergreen trees and shrubs; 132	Fontoura de Sequeira	1935
	---; desert country; 320	Hegh	1946
<i>morsitans</i> Westwood	---; savannah, evergreen forest with surface or underground water; 44	Hegh	1946
	---; naturally infected with trypanosomiasis; 123	Young	1925
	---; naturally infected with <i>Trypanosoma gambiense</i> ; 320	Duke	1933
	---; short grass plains; 320		
	---; ---; 320*	Kennedy	1929
<i>morsitans</i> <i>submorsitans</i> Newstead	---; in areas resembling park land, rare; 132	Fontoura de Sequeira	1935
<i>pallidera</i> (Bigot)	---; diurnal; 106	Gonzalez Vincente	1948
<i>palpalis</i> Robineau- Desvoidy	---; dense humid forest, heavily shaded forest bordering lakes, rivers and streams, diurnal; 44**	Hegh	1946
	---; ---; 106*, 254*	Paris Equilaz	1932
	---; evergreen forest on low ground; 132**	Fontoura de Sequeira	1935
	---; sugar cane, banana plantations; 163	Symes & Southby	1933
	---; river banks; 307	Herivaux	1928

TABLE 3 - BITING FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>LOSSINA</i> <i>tachinoides</i> Vestwood	---; diurnal; 106	Gonzalez Vincente	1948
	---; ---; 115	Malbrant & Dugue	1933
	---; Mould cracks and tree holes - upper branches of partly submerged trees; 123	Stewart	1937
<i>OSCINELLA</i> <i>pallipes</i> Cottam	---; enters houses; 13	Cottam	1922

TABLE 4 - SUMMARY OF DISEASES OR DISEASE ORGANISMS TRANSMITTED BY BITING FLIES
(UNCONFIRMED ENTRIES)

SPECIES	DISEASE OR DISEASE ORGANISM					COUNTRY
	VIRUS &	PROTOZOA	HELMINTHS	OTHER		
	RICKETTSIA					
<i>GLOSSINA</i> <i>palpalis</i> (Robineau- De voidy)		Siceping sickness			44, 106, 132, 254	

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G. NON-BITING FLIES

The entries for non-biting flies include representatives of several groups. Of course, the most important species in this category are those that feed as larvae on the flesh or blood of living animals.

The tables include 50 species or subspecies. No additional species are listed as unconfirmed.

TABLE 1 - NON-BITING FLIES

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>APHIOCHAETA</i> <i>xanthina</i> Speiser	Intestinal parasite of man; ---; 123*	Ingram	1942
<i>AUCHMEROMYIA</i> <i>luteola</i> (Fabricius)	---; ---; 13, 100, 175, 214, 273, 322. ---; in houses, bites at night; 44*. (Very specific parasite of man.)	Bequaert	1930
	---; ---; 43, 61, 65, 304. (Bloodsucking; prefer human faces, in houses)	Zumpt	1965
	---; enters houses; 115	Galliard	1933
	---; in huts; 117	Bertram et al.	1958
	---; enters houses; 163	Symes & Roberts	1932
	Ecto-parasite of man, feeding on blood of sleeping humans; ---; 292	Cuthbertson	1933
	---; ---; 320*	McConnell	1913
	In cracks and crevices of floors in native huts; ---; 322. (Blood suckers)	Bedford	1926
<i>CALLIPHORA</i> <i>crocospalpis</i> Jaenicke	---; in houses; 322*	Smit	1931
	From freshly passed stool of a native child; ---; 322*	Bedford	1926
<i>vicina</i> Robineau & Desvoidy	---; myiasis in rectal regions, secondary ulcers, secondary to otitis, oral cavities secondary to stomatitis; 176*	Zumpt	1965
<i>CHRYSOMYIA</i> <i>albiceps</i> (Wiedmann)	---; in houses; 117	Bertram et al.	1958
<i>bezziana</i> Villeneuve	---; ---; 44*	Zumpt	1965
	---; ---; 156*	Bouffard & Legac	1929
	---; ---; 163*	Lewis	1933
	---; ---; 320*	Hopkins	1944
	---; ---; 364	Patton	1921
<i>chloropyga</i> (Wiedmann)	---; ---; 44*	Mouchet	1917
	---; found in human wound; 292*, 322*	Smit	1931
	---; ---; 292*	Hopkins	1944

TABLE 1 - NON-BITING FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CHRYSOMYIA</i>			
<i>chloropyga</i> form <i>putoria</i> Wiedemann	---; isolated virus strains of Coxsackie, polio viruses, pathogenic staphylococcus, pathogenic coli- bacilli, <i>Salmonella typhimurium</i> , <i>Salmonella typhi</i> , <i>Salmonella cholerae suis</i> , <i>Salmonella give</i> , <i>Shigella</i> <i>flexneri</i> ; 186	Brygoo et al.	1962
<i>inclinata</i> Walker	---; ---; 163*	Zumpt	1961
	---; ---; 320*	Hopkins	1944
<i>marginalis</i> (Wiedemann)	---; ---; 322*	Smit	1931
<i>megacephala</i> (Fabricius)	---; ---; 186. (Larvae living in dermal layers and causing open wounds)	Zumpt	1965
<i>putoria</i> (Wiedemann)	---; ---; 131*	Zumpt	1965
	---; in houses; 320	Gibbins	1937
<i>CORDYLOBIA</i>			
<i>anthropophaga</i> Grünberg	---; ---; 13*	Cantlie	1923
	---; man occasional host; 44	Mouchet	1917
	---; ---; 44, 226. ---; ---; 273, 322. (Cutaneous myiasis agent)	Bequaert	1930
	---; ---; 61*	Rousseau	1918
	---; ---; 163*, 320*	Lewis	1933
	---; ---; 163*. ---; host man; 304. (Larvae attach themselves to children, burrow under the skin and produce painful lesions.)	Cuthbertson	1933
	---; experimental infection on human skin with larvae; 279*	Blacklock & Thompson	1923
	---; ---; 279°, 322°, 344°	Bedford	1926
	---; rests in dark places in houses and verandahs by day; 292	Cuthbertson	1942
	---; ---; 299. (Causes itching and pricking, later pain may interfere with sleep, lesions may resemble boils)	Zumpt	1965
	---; enters houses; 320	Gibbins	1937
	Larva taken from humans; ---; 364*	Aders	1917
<i>roahani</i> Geddoelst	---; ---; 44*, 123*, 292*	Bertram	1938
	---; ---; 44*, 226*. (Obligatory parasite, larva living in the dermal layers, burrowing or causing boils)	Zumpt	1965

TABLE 1 - NON-BITING FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CORDYLOBIA</i> <i>rodhaini</i> Gedoelst (cont.)	---; ---; 163*	Lewis	1933
<i>COSMINA</i> <i>prasina</i> B. B.	---; in house at daytime; 117	Bertram et al.	1958
<i>DISCOMYZA</i> <i>incurva</i> Creeson	---; caused annoyance by crawling on peoples' faces; 13*	Lewis	1958
<i>FANNIA</i> <i>scalans</i> (Fabricius)	---; ---; 322*	Anonymous	1944
	Larvae found in woman's stomach; ---; 322	Anonymous	1941
<i>GASTEROPHILUS</i> <i>haemorrhoidalis</i> (Linnaeus)	---; ---; 44*	Séguy	1928
	---; ---; 227. (First instar larvae cause a creeping myiasis in the skin.)	Zumpt	1965
<i>inermis</i> (Bræver)	---; ---; 322. (Obligatory parasite, larvae living in the dermal layers, burrowing or causing boils)	Zumpt	1965
<i>GEDOELSTIA</i> <i>häsleri</i> Gedoelst	---; larvae extracted from eyechamber; 163*	Zumpt	1965
<i>GYMNOPA</i> <i>albipennis</i> Loew	---; found settling on human skin and sweat; 9*	Lewis	1958
<i>LUTILIA</i> <i>argyrocephala</i> Wiedemann	---; ---; 113*	Roubaud	1914
<i>caesar</i> (Linnaeus)	---; ---; 176*	Zumpt	1965
<i>cuprina</i> Wiedemann	---; infests sores in man; 57*, 284*	Cuthbertson	1933
	---; ---; 57*, 102*, 163*, 284*, 320*, 344*	Zumpt	1965
	---; in houses at daytime; 117	Bertram et al.	1958
	---; ---; 320*	Hopkins	1944
<i>fernandica</i> Macquart	---; in houses in daytime; 117	Bertram et al.	1958
<i>sericata</i> (Meigen)	---; on wound of man; 96	Séguy	1928
	Found in "ulcers" of a woman leper; ---; 131	Mathis	1937
	---; ---; 163*	Symes & Roberts	1932

TABLE 1 - NON-BITING FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>MUSCILLA</i> <i>saprina</i> Meigen	---; ---; 320*	Hargreaves	1938
<i>MUSCA</i> <i>conducens</i> Walker	Alights persistently on peoples' faces; ---; 320	Gibbins	1937
<i>crassirostris</i> Stein	---; ---; 176*. (Facultative parasite)	Zumpt	1965
<i>domestica</i> Linnaeus	---; adults can carry the eggs, <i>Enterobius vermicularis</i> , <i>Ascaris lumbricoides</i> , <i>Trichuris trichiura</i> , <i>Angiostrongylus duodenalis</i> ; 54. (Eggs of <i>Taenia saginata</i> and <i>Schistosoma mansoni</i> found on adults)	Neveu-Lemaire	1933
	---; coxsackie virus frequently isolated; 96	Taylor & Hurlbut	1953
	---; July, Aug., naturally infected with polio, <i>Salmonella typhi murium</i> , pathogenic staphylococcus; 186	Brygoo et al.	1962
	From stools of children, from a sore on the leg of a child; ---; 322*	Nedford	1926
	---; ---; 322*	Anonymous	1944
<i>fasciata</i> Stein	---; ---; 186, 275. (Troublesome fly, settles on human skin in search of sweat.)	Patton	1936
<i>nebulosa</i> F.	---; kitchens, where they contaminate foodstuffs; 344	Cuthbertson	1932
<i>sordens</i> Wiedemann	Human stools and animal manures; seldom in houses, attracted to wounds and ulcers, & others around eyes, nose and mouth, persistently settles on human body, feeds actively on fresh animal blood and on open wounds, prefers bright sites, suspected transmitter of eye diseases; 96	Hafez & Attia	1958
	---; directly annoying to humans; 96*	Sabrosky	1952
	---; in houses at daytime; 117	Bertram et al.	1958
	---; attracted by pathological secretions, meat wounds, rests near eyes, nose, rarely in houses, suspected vector of ocular infections, intestinal germs and poliomyelitic virus; 211	Gaud et al.	1954
	---; experimental transmission of <i>Treponema pertenue</i> , causative agent of yaws; 230	Lamborn	1936
	Faeces of natives, small isolated deposits of fresh cattle dung; ---; 292. (Able to transmit bacilli of leprosy from sores to abrasions or to nose or mouth of man.)	Cuthbertson	1937
	---; experimentally infected with <i>Trypanosoma brucei</i> ; 364	Buxton	1955

TABLE 1 - NON-BITING FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>MUSCA</i>			
<i>vicina</i> Macquart	Human faeces; in houses especially kitchens where they contaminate foodstuffs; 344	Cuthbertson	1932
<i>xanthomelas</i> Wiedemann	---; house frequenter; 320	Gibbins	1937
	Human faeces; indoors; 344	Cuthbertson	1932
<i>yerburyi</i> Patton	---; kitchens, where they contaminate foodstuffs; 344	Cuthbertson	1932
<i>MUSCINA</i>			
<i>stabulans</i> (Fallén)	---; ---; 163. (Facultative parasite)	Zumpt	1965
<i>OESTRUS</i>			
<i>ovis</i> Linnaeus	Accidentally in nasal cavities and eyes; ---; 8	Rodhain & Bequaert	1915
	---; ---; 8*, 65*	Geigy & Herbig	1955
	---; ---; 8*, 65*, 96*	Sergeant	1952
	---; ---; 226. (Causes ocular myiasis)	Zumpt	1965
	Adults drop larvae into the eye, outer ear, nose, rarely the mouth; ---; 322*	Zumpt	1962
<i>OSCINELLA</i>			
<i>aharonii</i> Duda	---; causes annoyance by gathering inside houses; 13*	Lewis	1958
<i>SARCOPHAGA</i>			
<i>argyrostoma</i> (Robineau-Desvoidy)	---; ---; 96. (Facultative parasite, larvae living in dermal layers and causing open wounds.)	Zumpt	1965
<i>beckeri</i> Villeneuve	---; ---; 176*	Hopkins	1944
	Larva removed from ear of a woman; ---; 292*	Cuthbertson	1933
<i>exuberans</i> Pandellé	---; ---; 96*	Cuthbertson	1937
	---; enters houses; 320	Gibbins	1937
<i>haemorrhoidalis</i> (Fallén)	---; occasional host is man; 44	Mouchet	1917
	Larvae passed in stools of human; ---; 163	Lewis	1933
	---; ---; 163*	Hopkins	1944
	---; enters houses; 292	Cuthbertson	1937
	Stomach and intestines of man; ---; 322*	Smit	1931

TABLE 1 - NON-BITING FLIES (conclusion)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>SARCOPHAGA</i>			
<i>hirtipes</i> Wiedemann	---; ---; 96*	Zumpt	1965
	---; in kitchens where it contaminates foodstuff and milk; 292	Cuthbertson	1933
<i>nodosa</i> Engel	---; ---; 292*	Cuthbertson	1934
<i>ruficornis</i> (Fabricius)	---; ---; 186. (Larvae living in the dermal layers and causing open wounds, facultative parasite.)	Zumpt	1965
<i>tibialis</i> Macquart	---; found in scalp lesions resulting from trichophytosis; 176*	Zumpt	1965
<i>STASISIA</i>			
<i>rodhaii</i> (Gedoelst)	---; ---; 14*, 61*, 115*, 123*, 163*, 273*, 292*	Geigy & Herbig	1955
	---; ---; 163*	Symes & Roberts	1932
<i>WOHLFAHRTIA</i>			
<i>magnifica</i> (Schiner)	---; serious pest to man; 96*	Patton	1921
	---; oviposits in old wounds; 96*, 322*	Smit	1931
	---; ---; 316*	Larrousse	1923
	Larvae on man; ---; 322	Bedford	1926
<i>nuba</i> Wiedemann	---; ---; 13, 102, 273. (Causes traumatic myiasis in man.)	Zumpt	1965
	---; ---; 13*, 96*	Ferriere	1935

TABLE 2 - SUMMARY OF DISEASES OR DISEASE ORGANISMS TRANSMITTED BY NON-BITING FLIES

SPECIES	DISEASE OR DISEASE ORGANISM					COUNTRY
	VIRUS &	PROTOZOA	HELMINTHS	OTHER		
	RICKETTSIA					
<hr/>						
APHIOCHAETA						
<i>xanthina</i>				Intestinal		
Speiser				parasite	123	
<hr/>						
CALLIPHORA						
<i>croceipalpis</i>				Myiasis	322	
Jaennicke						
				Human		
				myiasis	322 (Smit)	
<i>virina</i>				Traumatic		
Robineau-				myiasis	176	
Desvoidy						
<hr/>						
CHRYSOMYIA						
<i>lezziana</i>				Human		
Villeneuve				myiasis	44, 156, 163, 320	
<i>chloropyga</i>				Human		
Wiedemann				myiasis	292, 322	
					292 (Hopkins)	
				Intestinal		
				myiasis	44	
<i>inclinata</i>				Subcutaneous		
Walker				myiasis	163, 320	
<i>marginalis</i>				Human		
(Wiedemann)				myiasis	322	
<i>putoria</i>				Human		
(Wiedemann)				myiasis	131	
<hr/>						
CORDYLOBIA						
<i>anthropophaga</i>				Human		
Grünberg				myiasis	163, 163(Cuthbertson) 279, 320, 322	
				Cutaneous		
				myiasis	13, 364	
				Myiasis	61	
<i>rodhaini</i>				Human		
Geddoelst				myiasis	44, 123, 163, 292	
				Dermal		
				myiasis	44, (Zumpt) 226	

TABLE 2 - SUMMARY OF DISEASES OR DISEASE ORGANISMS TRANSMITTED BY NON-BITING FLIES (continued)

SPECIES	DISEASE OR DISEASE ORGANISM					COUNTRY
	VIRUS & RICKETTSIA	PROTOZOA	HELMINTHS	OTHER		
<i>FANNIA</i> <i>scalaris</i> (Fabricius)				Intestinal myiasis		322
<i>GASTEROPHILUS</i> <i>haemorrhoidalis</i> (Linnaeus)				Subcutaneous myiasis		44
<i>GEDOELSTIA</i> <i>hüssleri</i> Gedoelst				Myiasis		163
<i>LUCILIA</i> <i>argyrocephala</i> Wiedemann				Myiasis (infests sores)		113
<i>caesar</i> (Linnaeus)				Myiasis		176
<i>cuprina</i> Wiedemann				Lesionary myiasis		320
				Myiasis (infests sores)		57, 284
				Dermal myiasis		57, 102, 163, 284, 320, 344 (Zumpt)
				Traumatic myiasis		57, 284, 320
<i>sericata</i> (Meigen)				Myiasis (infested ulcer)		163
<i>suprina</i> Meigen				Myiasis		320
<i>MUSCA</i> <i>crassirostris</i> Stein				Intestinal myiasis		176
<i>domestica</i> Linnaeus				Myiasis		322 (Bedford)
				Intestinal myiasis		322 (Anonymous)

TABLE 2 - SUMMARY OF DISEASES OR DISEASE ORGANISMS TRANSMITTED BY NON-BITING FLIES (conclusion)

SPECIES	DISEASE OR DISEASE ORGANISM					COUNTRY
	VIRUS &					
	RICKETTSIA	PROTOZOA	HELMINTHS	OTHER		
<i>DESTRUS</i> <i>ovis</i> Linnaeus				Myiasis	8, 65 (Geigy & Herbig)	
				Ocular myiasis & conjunc- tivitis	96, 322	
				Oculo-nasal myiasis	8, 65 (Sergent)	
<i>LABDOPHAGA</i> <i>deckeri</i> Villeneuve				Lesionary myiasis	176	
				Ocular myiasis	292	
<i>arabensis</i> Pandellé				Myiasis of human eye	96	
<i>haemorrhoidalis</i> (Fallén)				Myiasis	163, 322	
<i>kirtipes</i> Wiedemann				Intestinal myiasis	96	
<i>nodosa</i> Engel				Human myiasis	292	
<i>tibialis</i> Macquart				Myiasis	176	
<i>STASISIA</i> <i>rochani</i> Gedoelst				Furuncular myiasis	14, 61, 115, 123, 163, 273, 292	
				Myiasis	163 (Symes & Roberts)	
<i>ACHOPHETIA</i> <i>trappi</i> Schiner				Myiasis	96, 316, 322	

TABLE 3 - NON-BITING FLIES
(UNCONFIRMED ENTRIES)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>COPDYLOBIA</i>			
<i>anthropophaga</i> (Grünberg)	---; ---; 44*	Rodhain & Bequaert	1913
	---, ---; 292*	Jack	1940
	---; ---; 322*	Anonymous	1924

TABLE 4 - SUMMARY OF DISEASES OR DISEASE ORGANISMS TRANSMITTED BY NON-BITING FLIES
(UNCONFIRMED ENTRIES)

SPECIES	DISEASE OR DISEASE ORGANISM					COUNTRY
	VIRUS &	PROTOZOA	HELMINTHS	OTHER		
	RICKETTSIA					
<i>CORDYLOBIA</i> <i>anthropophaga</i> (Grünberg)				Myiasis	44, 292, 322	

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H. FLEAS

The entries for fleas include almost no biology. Very few authors deal with flea biology. A few comment on fleas as vectors, but most of the literature deals with taxonomy and hosts. Only when the flea species is said to bite man is a host recorded.

The tables include 363 species or subspecies. Only one of the listed species, *Pulex fasciatus* (Bosc d'Antic), is recorded only in the unconfirmed list; but this species is a synonym of *Ceratophyllus* which is included in Table 3.

TABLE 1 - FLEAS

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>APHROPSYLLA</i>			
<i>conversa</i> Jordan & Rothschild	---; ---; 163	Hopkins & Rothschild	1953
<i>wollastoni</i> (Rothschild)	---; ---; 320	Hopkins & Rothschild	1953
<i>ARAEOPSYLLA</i>			
<i>isomalus</i> Waterst.	---; ---; 322	Jordan & Rothschild	1921
<i>martialis</i> (Rothschild)	---; ---; 186	Hopkins & Rothschild	1956
<i>scitula</i> (Rothschild)	---; ---; 43, 186, 279, 322	Marcus	1961
<i>wassifi</i> Traub	---; ---; 96	Hopkins & Rothschild	1956
<i>ARCHAEOPSYLLA</i>			
<i>erinacei</i> <i>mura</i> Jordan & Rothschild	---; ---; 8, 316	Hopkins & Rothschild	1953
	---; ---; 211	Blanc et al.	1967
<i>CAENOPSYLLA</i>			
<i>assimulata</i> Weiss	---; ---; 316	da Costa Lima & Hathaway	1946
<i>mira</i> Rothschild	---; ---; 8	Jordan & Rothschild	1923
	---; ---; 316	Wassilieff	1931
<i>CENTETIPSYLLA</i>			
<i>madagascari-</i> <i>ensis</i> (Rothschild)	---; ---; 186	Hopkins & Rothschild	1953
<i>CERATOPHYLLUS</i>			
<i>barbarus</i> Jordan & Rothschild	---; ---; 8	Jordan & Rothschild	1921a.
	---; Oct.-June; 316	Reynal & Wassilieff	1933
<i>consobrinus</i> Jordan	---; ---; 226	Pearse	1928
<i>copulabilis</i> Weiss	---; ---; 316	Wassilieff	1931

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CERATOPHYLLUS</i> <i>farreni</i> Rothschild	---; ---; 8	Peus	1938
<i>farreni</i> <i>meridionalis</i> Jordan & Rothschild	---; ---; 8	Jordan & Rothschild	1923
<i>fasciatus</i> Bosc	---; ---; 8	Grenouilleau	1946
	---; ---; 89	Bauvallet	1925
	---; ---; 96	Bacot et al.	1914
	---; ---; 176	Patane	1930
	---; Oct.-June, July-Aug.; 316	Reynal Wassilieff	1933
	---; ---; 322*	Murray	1929
<i>haesidatoris</i> <i>desideratus</i> Weiss	---; ---; 316	da Costa Lima & Hothaway	1946
<i>henleyi</i> Jordan	---; ---; 8	Jordan	1931
	---; ---; 316	Wassilief	1931
<i>henleyi</i> <i>mauritanicus</i> Jordan & Rothschild	---; ---; 8	Jordan & Rothschild	1923
<i>henleyi</i> var. <i>oratus</i> Jordan	---; ---; 8	Wagner	1931
<i>hirundinis</i> Curtis	---; ---; 8	Peus	1938
<i>incisus</i> Jordan & Rothschild	---; ---; 163, 320	Hopkins	1947
<i>infestus</i> Rothschild	---; ---; 364	Neave	1912
<i>laverani</i> Rothschild	---; ---; 8	Jordan & Rothschild	1923

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>SPRATOPHYLLUS</i>			
<i>londinensis</i> (Rothschild)	---; all year; 316	Reynal & Wassilieff	1933
	---; ---; 322	Ingram	1927
<i>longtinensis</i> Rothschild	---; ---; 322	Brain	1929
<i>taurus</i> Jordan & Rothschild	---; in houses; 316	Gobert	1932
<i>noctuidus</i> Jordan & Rothschild	---; ---; 8	Jordan & Rothschild	1923
<i>vicinus</i> Rothschild	---; ---; 322	Bedford	1926
<i>CHIASTOPSYLLA</i>			
<i>saffratica</i> de Meillon	---; ---; 322	de Meillon	1940
<i>expensis</i> de Meillon	---; ---; 322	Hopkins & Rothschild	1956
<i>varus</i> de Meillon & Hardy	---; ---; 322	Hopkins & Rothschild	1956
<i>coraxia</i> de Meillon	---; ---; 322	de Meillon	1942
<i>couchae</i> de Meillon	---; ---; 322	de Meillon	1940
<i>crassus</i> de Meillon	---; ---; 322	de Meillon	1940a.
<i>gartepeensis</i> de Meillon & Hardy	---; ---; 322	Hopkins & Rothschild	1956
<i>godfreyi</i> Waterston	---; ---; 39, 322	de Meillon et al.	1961
<i>monticola</i> de Meillon	---; ---; 39	Hopkins & Rothschild	1956
<i>mulleri</i> Ingram	---; ---; 322	Chabaud	1947
<i>mulleri</i> <i>longisetis</i> Ingram	---; ---; 322	Hopkins & Rothschild	1956

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CHIANTOPSYLLA</i> <i>mulleri</i> <i>mulleri</i> Ingram	---; ---; 322	Hopkins & Rothschild	1956
<i>nama</i> de Meillon & Hardy	---; ---; 56	Hopkins & Rothschild	1956
	---; ---; 322	de Meillon et al.	1961
<i>numae</i> (Rothschild)	---; ---; 322	Hopkins & Rothschild	1956
<i>numae</i> <i>klaveriana</i> de Meillon	---; ---; 322	de Meillon	1940
<i>numae</i> <i>numae</i> Roths- child	---; ---; 322	da Costa Lima & Hathaway	1946
<i>numae</i> form <i>rossi</i> (Roths- child)	---; ---; 39, 292, 299, 322. (Plague vector of <i>Pasteurella pestis</i>)	de Meillon et al.	1961
<i>numae</i> form <i>typica</i> (Roths- child)	---; ---; 322	de Meillon et al.	1961
<i>octavii</i> Rothschild	---; ---; 322	Chabaud	1947
<i>octavii</i> <i>caledonia</i> de Meillon	---; ---; 322	Hopkins & Rothschild	1956
<i>octavii</i> <i>octavii</i> (Roths- child)	---; ---; 322	Hopkins & Rothschild	1956
<i>pitchfordi</i> Ingram	---; ---; 322	Chabaud	1947
<i>quadrisetis</i> de Meillon	---; ---; 322	Hopkins & Rothschild	1956
<i>roseinnesi</i> de Meillon & Hardy	---; ---; 39	Hopkins & Rothschild	1956

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CHIASTOPSYLLA</i> <i>rossi</i> (Waterston)	---; ---; 216	Bedford	1936
	---; experimental vector of bubonic plague; 322*	Chabaud	1947
	---; ---; 322*	Murray	1929
	---; ---; 364	Hopkins & Rothschild	1956
<i>CHAMAEROPSYLLA</i> <i>haddoni</i> Smir	---; ---; 163	Hopkins & Rothschild	1956
	---; ---; 364	de Meillon et al.	1961
<i>potis</i> Rothschild	---; ---; 163, 230, 320, 364	Hopkins	1947
<i>potis</i> <i>potis</i> Roths- child	---; ---; 163, 230, 364	Hopkins & Rothschild	1956
<i>potis</i> <i>stuhlnanni</i> Jordan	---; ---; 320	Hopkins & Rothschild	1956
<i>CHIROPTEROPSYLLA</i> <i>aegyptia</i> (Rothschild)	---; ---; 96	Hopkins & Rothschild	1956
<i>brockmani</i> Rothschild	---; ---; 44, 163, 284	Marcus	1961
<i>COENOPSYLLA</i> <i>mira</i>	---; ---; 316	Chatton & Blanc	1917
<i>COPTOPSYLLA</i> <i>africana</i> Wagner	---; ---; 316	Galliard	1934
<i>CRYPTOPSYLLA</i> <i>ingrati</i> (de Meillon)	---; ---; 322	Hopkins & Rothschild	1956
<i>CRYPTOCTENO-</i> <i>PSYLLUS</i> <i>ingens</i> (Rothschild)	---; ---; 322	da Costa Lima & Hathaway	1946

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CTENOCEPHALIDES</i>			
<i>canis</i> Curtis	---; ---; 8, 56°, 187	Jordan & Rothschild	1953
	---; ---; 43, 56, 102, 322. (Experimentally transmitting plague)	de Meillon et al.	1961
	---; ---; 44° (experimental vector of plague). ---; ---; 175°	Chabaud	1947a.
	---; ---; 54, 61, 96	da Costa Lima & Hathaway	1946
	---; ---; 163. (Capable of transmitting plague from rat to rat)	Hopkins	1947
	---; ---; 186	Brygoo & Rajenison	1960
	---; July-Aug.; 211	Ristorcelli	1945
	---; in huts; 273	Kartman	1946
	---; ---; 279	Blacklock & Thompson	1924
	---; ---; 316	Wagner & Wassilieff	1933
	---; ---; 364°	Aders	1917
<i>connatus</i> (Jordan)	---; ---; 43, 322. (Poor plague vector)	de Meillon et al.	1961
	---; ---; 56	Hopkins & Rothschild	1953
	---; ---; 61	Grenier et al.	1961 (1962)
	---; ---; 364	Hopkins	1947
<i>crataepus</i> (Jordan)	---; ---; 132, 163, 226, 273, 279, 320	Hopkins & Rothschild	1953
<i>craterus</i> (Jordan & Rothschild)	---; ---; 163	Hopkins & Rothschild	1953
<i>felis</i> Bouché	---; ---; 89	Bauvallet	1925
	---; ---; 96	Bacot et al.	1914
	---; ---; 163	Anderson	1924 a.
	---; ---; 186	Chabaud	1947
	---; ---; 201	Jordan	1925

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CTENOCEPHALIDES</i>			
<i>felis</i> Beuché (Cont'd.)	---; May-Aug.; 211	Ristorcelli	1945
	---; in huts; 273	Kartman	1946
	---; ---; 279	Simpson	1913
	---; ---; 316	Reynal & Wassilieff	1933
	---; ---; 322	Curson	1928
<i>felis</i> <i>damarensis</i> Jordan	---; 39, 42, 214, 227, 230, 292, 299, 322, 364	de Meillon et al.	1961
	---; ---; 56	Hopkins & Rothschild	1953
<i>felis</i> <i>felis</i> (Bouché)	---; ---; 8, 13, 63, 96, 102, 163°, 176, 187, 211, 253, 273, 284, 316, 322, 364. ---; in houses; 186	Hopkins & Rothschild	1953
	---; ---; 61	Grenier et al.	1961 (1962)
<i>felis</i> <i>orientalis</i> (Jordan)	---; ---; 284	Hopkins & Rothschild	1953
<i>felis</i> <i>strongylus</i> (Jordan)	---; ---; 13, 14, 44, 56, 102, 106, 117, 123, 132, 163, 214, 225, 226, 230, 273, 279, 282, 284, 292, 320, 322, 364	Hopkins & Rothschild	1953
	---; ---; 42, 43, 186, 227. ---; naturally in- fected with <i>Pasteurella pestis</i> ; 44°	de Meillon et al.	1961
	---; ---; 44°	Chabaud	1947
	---; in houses; 61, 206°	Grenier et al.	1961 (1962)
	---; ---; 113	da Costa Lima & Hathaway	1946
<i>rosmarus</i> (Rothschild)	---; ---; 102	Hopkins & Rothschild	1953
<i>CTENOCEPHALUS</i>			
<i>canis</i> Curtis	---; ---; 8	Jordan & Rothschild	1923
	---; ---; 44, 175°	Bequaert	1930
	---; ---; 54, 227, 230, 320, 364	Neave	1912
	---; ---; 89	Bauvallet	1925
	---; Nov.-Jan.; 112	Curasson	1925
	---; ---; 123	Simpson	1914

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CTENOCEPHALUS</i>			
<i>canis</i>	---; ---; 163	Anderson	1924
Curtis (cont'd)	---; ---; 211	Delanoë	1932a.
	---; ---; 226	Simpson	1912
	---; ---; 275	Simpson	1913
	---; ---; 322*	Murray	1929
	---; occasionally attacks man; 364°	Aders	1917
<i>sophorus</i>	---; ---; 226	Pearse	1928
<i>felis</i>	---; ---; 8	Jordan & Rothschild	1923
Bouché	---; ---; 89	Bauvallet	1925
	---; ---; 96	Barot et al.	1914
	---; ---; 113	Hornby	1927
	---; ---; 123	Simpson	1914
	---; ---; 176	Patanè	1930
	---; domestic; 186	Fonquernie	1932
	---; ---; 211	Delanoë	1932a.
	---; ---; 230, 320	Neave	1912
	---; ---; 273	Lefrou	1932
	---; ---; 279	Simpson	1913
	---; all year; 316	Reynal & Wassilieff	1933
	---; ---; 364	Aders	1917
<i>felis</i>	---; ---; 211	Blanc et al.	1962
<i>felis</i> Bouché			
<i>serraticeps</i>	---; ---; 8	Crenouilleau	1946
Tiraboschi			
<i>CTENOPHTHALMUS</i>			
<i>acanthurus</i>	---; ---; 163. (Primarily a species of fairly high altitudes)	Hopkins	1947
Jordan & Rothschild			
<i>acutus</i>	---; ---; 226	de Meillon et al.	1961
Jordan			
<i>ansonjei</i>	---; ---; 14	Bedford	1926
Rothschild			

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CTENOPHTHALMUS</i>			
<i>ansorgei</i>	---; ---; 14	de Meillon et al.	1961
<i>ansorgei</i> Rothschild	---; ---; 44	Jordan	1936
<i>ansorgei</i> <i>eastonensis</i> Jordan	---; ---; 44	de Meillon et al.	1961
<i>ansorgei</i> <i>atlatlensis</i> Marcus & de Meillon	---; ---; 322	de Meillon et al.	1961
<i>atromus</i> Jordan & Rothschild	---; ---; 14 ---; ---; 44	Jordan de Meillon et al.	1936 1961
<i>madax</i> Jordan & Rothschild	---; ---; 163	Hopkins	1947
<i>baeopus</i> Jordan	---; ---; 163, 320. (Known localities are all between about 3,000 and 4,300 feet)	Hopkins	1947
<i>pubirus</i> Jordan & Rothschild	---; experimental infection and transmission of plague; 163 ---; widely distributed; 163, 320 ---; ---; 364	Chabaud Hopkins de Meillon et al.	1947 1947 1961
<i>californicus</i> Waterston	---; ---; 39, 292, 322	de Meillon et al.	1961
<i>californicus</i> <i>californicus</i> Waterston	---; ---; 322	da Costa Lima & Hathaway	1946
<i>cephalus</i> Jordan & Rothschild	---; ---; 163, 320	Hopkins	1947
<i>lebrunae</i> Berteaux	---; ---; 44	de Meillon et al.	1961
<i>designatus</i> Jordan	---; ---; 44	de Meillon et al.	1961
<i>clavatus</i> Jordan	---; collected at 11,000 ft.; 163 ---; ---; 320	Hopkins de Meillon et al.	1947 1961
<i>engis</i> Rothschild	---; ---; 102	de Meillon et al.	1961

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CTENOPHTHALMUS</i>			
<i>euraeus</i> Jordan & Rothschild	---; collected at 11,000 ft.; 163	Hopkins	1947
<i>evidens</i> Jordan	---; ---; 44. ---; occurs at 6,400 - 7,800 ft.; 320	Hopkins	1947
	---; ---; 54	Jordan	1929
<i>eximius</i> Jordan & Rothschild	---; ---; 44, 163, 320	Hopkins	1947
<i>lubrensis</i> Berteaux	---; ---; 44	de Meillon et al.	1961
<i>lycosius</i> Jordan & Rothschild	---; ---; 54	da Costa Lima & Hathaway	1946
	---; ---; 163	Hopkins	1947
<i>modicus</i> <i>elongensis</i> Jordan	---; collected at 6,500 ft.; 320	Hopkins	1947
<i>modicus</i> <i>modicus</i> Jordan	---; ---; 163	Hopkins	1947
<i>moratus</i> Jordan	---; ---; 123	de Meillon et al.	1961
<i>olbius</i> Jordan & Rothschild	---; ---; 54	Jordan & Rothschild	1923a.
	---; ---; 163	Hopkins	1947
<i>particularis</i> Berteaux	---; ---; 44	de Meillon et al.	1961
<i>phyris</i> Jordan	---; ---; 44	de Meillon et al.	1961
<i>rosmarus</i> Rothschild	---; ---; 100	da Costa Lima & Hathaway	1946
<i>segregus</i> Jordan	---; ---; 320	de Meillon et al.	1961
<i>singularis</i> Jordan	---; ---; 163, 320	de Meillon et al.	1961
<i>smithersi</i> de Meillon	---; ---; 292	de Meillon et al.	1961
<i>stenurus</i> Jordan	---; collected at 11,000 ft.; 163	Hopkins	1947
	---; ---; 320	de Meillon et al.	1961

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CTENOPHTHALMUS</i> <i>varhoofi</i> Bertaux	---; 44	de Meillon et al.	1961
<i>CTENOPSYLLA</i> <i>copulabilis</i> Weiss	---; ---; 316	Weiss	1917
<i>ellobius</i> Rothschild	---; ---; 54, 320	Neave	1912
	---; ---; 163	Anderson	1924
<i>musculi</i> (Dugès)	---; ---; 8	Raynaud	1924
	---; ---; 176	Patanè	1930
	---; ---; 186	Girard & Legendre	1925
	---; ---; 316	Wassilieff	1931
<i>CTENOPSYLLUS</i> <i>aethiopicus</i> Rothschild	---; ---; 364	Neave	1912
<i>segnis</i> (Schönherr)	---; naturally infected with bubonic plague; 186. ---; experimental vector of plague; 322. (Very rarely attacks man)	Chabaud	1947
	---; ---; 316	Wassilieff	1931
<i>DAMPFIA</i> <i>grahami</i> <i>equatoris</i> Smit	---; ---; 44	Hopkins & Rothschild	1956
<i>grahami</i> <i>grahami</i> (Waterston)	---; ---; 322	Hopkins & Rothschild	1956
<i>DELOPSYLLA</i> <i>crassipes</i> Jordan	---; ---; 163	Hopkins & Rothschild	1953
<i>DE MEILLONIA</i> <i>granti</i> (Rothschild)	---; ---; 56, 322	de Meillon et al.	1961
<i>DERMATOPHILUS</i> <i>penetrans</i> (Linnaeus)	---; ---; 13, 44*, 100, 175*, 186, 273, 322, 364*	Bequaert	1930
	---; ---; 123	Simpson	1914
	---; ---; 163*	Anderson	1924
	---; ---; 226	Simpson	1912
	---; ---; 230	Neave	1912

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>DIPLOCYLLUS</i>			
<i>apictus</i> Jordan & Rothschild	---; ---; 44. ---; collected at 5,800-7,000 ft. elevations; 163, 320	Hopkins	1947
<i>brachypterus</i> Smit	---; ---; 186	de Meillon et al.	1961
<i>coctinus</i> Jordan & Rothschild	---; ---; 44, 163, 320. (Apparently not very common at high elevations)	Hopkins	1947
<i>ellobius</i> (Rothschild)	---; ---; 39, 43, 56, 292, 295, 322. (Experimental transmission of and naturally infected with <i>Pasteurella pestis</i>)	de Meillon et al.	1961
<i>ellobius</i> <i>ataris</i> Jordan	---; ---; 322	Jordan	1930
<i>ellobius</i> <i>ellobius</i> Rothschild	---; vector capacity for plague; 322	Macchiavello	1954
<i>ellobius</i> <i>lypusae</i> Jordan & Rothschild	---; vector capacity for plague; 44	Macchiavello	1954
<i>grypus</i> Jordan & Rothschild	---; ---; 163	Hopkins	1947
<i>hirsutus</i> Rothschild	---; rare species; 320	Hopkins	1947
<i>hirsutus</i> <i>niroutus</i> (Rothschild)	---; ---; 320	de Meillon et al.	1961
<i>hirsutus</i> <i>semitus</i> Jordan	---; ---; 320	de Meillon et al.	1961
<i>horridus</i> Jordan & Rothschild	---; ---; 14	de Meillon et al.	1961
<i>ingens</i> Rothschild	---; ---; 322	Bedford	1926
<i>kemp</i> Jordan & Rothschild	---; ---; 163	Hopkins	1947

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>longipennis</i> Jordan & Rothschild	---; ---; 44, 322	da Costa Lima & Hathaway	1946
	---; high elevation only; 163, 320	Hopkins	1947
<i>longipennis</i> Jordan & Rothschild	---; ---; 44, 163, 320	de Meillon et al.	1961
<i>longipennis</i> Jordan & Rothschild	---; ---; 13, 14, 43, 44, 54, 56, 163, 227, 230, 292, 299, 320, 322, 364	de Meillon et al.	1961
<i>longipennis</i> Jordan	---; ---; 322	de Meillon et al.	1961
<i>longipennis</i> Jordan & Rothschild	---; ---; 13, 14, 320	Jordan	1936
	---; transmits bubonic plague to rats; 44*. ---; experimentally infected with bubonic plague; 186°, 322°	Chabaud	1947
	---; ---; 44, 163, 364	da Costa Lima & Hathaway	1946
	---; naturally infected with bubonic plague; 186, 322	Chabaud	1947 a.
	---; capable of carrying plague; 320	Hargreaves	1935
	---; experimentally infected with plague; 320	Hopkins	1949
	---; ---; 322*	Murray	1929
	---; ---; 364	Bequaert	1930
<i>longipennis</i> Jordan	---; ---; 320	Hopkins	1947
<i>longipennis</i> Jordan	---; ---; 322	da Costa Lima & Hathaway	1946
<i>longipennis</i> Berteaux	---; ---; 44	de Meillon et al.	1961
<i>longipennis</i> de Meillon	---; ---; 322	da Costa Lima & Hathaway	1946

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>ECHIDNOPHAGA</i>			
<i>aethiops</i> Jordan & Rothschild	---; ---; 43, 284	de Meillon et al.	1961
	---; ---; 56, 163, 322	Hopkins & Rothschild	1953
<i>bradyta</i> Jordan & Rothschild	---; ---; 102	da Costa Lima & Hathaway	1946
	---; ---; 322	Chabaud	1947
<i>gallinacea</i> (Westwood)	---; ---; 13, 14, 56, 102, 123, 163, 255, 266, 227, 230, 292, 320, 322, 364	Hopkins & Rothschild	1953
	---; ---; 43, 214. ---: naturally infected with <i>Pasteurella pestis</i> ; in houses; 344. (Transmits plague)	de Meillon et al.	1961
	---; ---; 44°	Requaert	1930
	---; ---; 54	Bedford	1926
	---; ---; 61, 206	Grenier et al.	1961 (1962)
	---; ---; 96	Bacot et al.	1914
	---; ---; 113°	Noc	1922
	---; in houses, Apr., June; 186	Brygoo & Rajenisen	1960
	---; Jan.-Dec. peak Apr.-Dec.; 186	Robic	1937
	---; ---; 201	Jordan	1925
	---; ---; 211	Delanoë	1932a.
	---; ---; 253	Hopkins & Rothschild	1952
	---; in huts; 273	Kartman	1946
	---; ---; 316	Weiss	1917
<i>gallinacea</i> <i>erinacea</i> (Weiss)	---; ---; 316	da Costa Lima & Hathaway	1946
<i>gallinacea</i> <i>gallinacea</i> (Westwood)	---; ---; 14, 123, 186, 226, 316, 322	da Costa Lima & Hathaway	1946
<i>inexpectata</i> Smit	---; ---; 163	Hopkins & Rothschild	1953

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>ECHEIDNOPHAGA</i>			
<i>larina</i> Jordan & Rothschild	---; ---; 39, 43, 214, 284, 324	de Meillon et al.	1961
	---; ---; 56, 102, 163, 227, 230, 273, 292, 320, 364	Hopkins & Rothschild	1953
	---; ---; 61	Grenier et al.	1961 (1962)
<i>marina</i> (Tiraboschi)	---; ---; 96, 211	Hopkins & Rothschild	1953
<i>tarda</i> Jordan	---; ---; 102	Hopkins & Rothschild	1953
<i>EPIDIMIA</i>			
<i>aganippes</i> (Rothschild)	---; ---; 39, 322	de Meillon et al.	1961
	---; ---; 56	Hopkins & Rothschild	1956
<i>granti</i> (Rothschild)	---; ---; 322	Hopkins & Rothschild	1956
<i>GERBILLOPHALUS</i>			
<i>henleyi</i> (Rothschild)	---; ---; 8	Wagner	1931
<i>HYPSPHATHALUS</i>			
<i>aganippes</i> Rothschild	---; ---; 322	Bedford	1926
<i>HYPSPHATHALMUS</i>			
<i>campestris</i> Jordan & Rothschild	---; occurs from 5,400 to 7,800 ft.; 44, 163, 320	Hopkins	1947
<i>granti</i> Rothschild	---; ---; 322	Bedford	1926
<i>montivagans</i> de Meillon	---; ---; 39	Hopkins & Rothschild	1956
<i>temporis</i> de Meillon	---; ---; 39, 322	de Meillon et al.	1961
<i>HYSTRICOPHYLLA</i>			
<i>tripartita</i> Tiraboschi	---; ---; 316	Wassilieff	1931
<i>HYSTRICOPHYLLA</i>			
<i>ashworthi</i> Waterston	---; ---; 322	Bedford	1926

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>ISCHNOPSYLLUS</i>			
<i>consimilis</i> (Wahlgren)	---; ---; 96	Hopkins & Rothschild	1956
<i>ectopu</i> Jordan	---; ---; 163	Jordan	1939
	---; ---; 320	Jordan	1937a.
<i>emminus</i> Jordan & Rothschild	---; ---; 322	Hopkins & Rothschild	1956
<i>grahami</i> Waterston	---; ---; 322	Bedford	1926
<i>nispanicus</i> Jordan	---; ---; 211	Hopkins & Rothschild	1956
<i>intermedius</i> (Rothschild)	---; ---; 36	Hopkins & Rothschild	1956
<i>octactenus</i> (Kolenati)	---; ---; 211	Hopkins & Rothschild	1956
<i>LAGAROPSYLLA</i>			
<i>anciauxi</i> Smit	---; ---; 44	Marcus	1961
<i>consularis</i> Smit	---; ---; 14, 44, 102, 163, 214, 320, 344	Marcus	1961
<i>hoogstraali</i> Smit	---; ---; 13, 186, 362	Marcus	1961
<i>idae</i> Smit	---; ---; 14, 111, 113, 132, 214, 226, 230, 279, 320	Marcus	1961
<i>incerta</i> (Rothschild)	---; ---; 13, 14, 44, 89, 102, 163, 186, 214, 226, 230, 279, 320, 344	Hopkins & Rothschild	1956
<i>leleupi</i> Smit	---; ---; 44	Marcus	1961
<i>lipsi</i> Smit	---; ---; 44	Marcus	1961
<i>obliqua</i> Smit	---; ---; 44, 111, 279	Marcus	1961
<i>LEPTOPSYLLA</i>			
<i>aethiopica</i> Rothschild	---; naturally infected with bubonic plague; 44	Chabaud	1947a.
	---; spontaneous infection, seven strains of <i>pasteurella pestis</i> isolated, vector capacity for plague; 44	Macchiavello	1954
	---; ---; 44, 163, 320, 364. (Apparently common at high elevations, but also found in lower areas)	Hopkins	1947

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>LEPTOPSYLLA</i>			
<i>aethiopica</i> <i>nakuaruensis</i> Smit	---; ---; 163	de Meillon et al.	1961
<i>aethiopica</i> <i>thalia</i> de Meillon	---; ---; 292, 322	de Meillon et al.	1961
<i>algira</i> Jordan & Rothschild	---; ---; 8	Jordan & Rothschild	1923
<i>algira</i> <i>algira</i> Jordan & Rothschild	---; ---; 8	da Costa Lima & Hathaway	1946
<i>maroccanus</i> Grenier	---; ---; 211	Blanc et al.	1962
<i>musculi</i> Duges	---; ---; 96	Bacot et al.	1914
	---; ---; 186	Chabaud	1947
	---; ---; 322*	Murray	1929
<i>segnis</i> (Schönherr)	---; ---; 43, 163, 322. (Generally accepted as an inefficient vector of plague)	de Meillon et al.	1961
	---; introduced with its host; 163. (Cosmopolitan parasite of European house-mouse, <i>Mus musculus</i>)	Hopkins	1947
	---; in houses, Aug., June, Oct.; 186	Brygoo & Rajenison	1960
	---; ---; 211	Blanc et al.	1962
<i>tschambergi</i> Wagner	---; ---; 8	da Costa Lima & Hathaway	1946
<i>LIBYASTUS</i>			
<i>cognatus</i> Smit	---; ---; 226	de Meillon et al.	1961
<i>consobrinus</i> (Jordan)	---; ---; 115, 226	de Meillon et al.	1961
<i>hopkinsi</i> Jordan	---; ---; 320	Hopkins	1947
<i>infestus</i> <i>duratus</i> Jordan	---; ---; 364	Hopkins	1947

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>LIBYASTUS</i>			
<i>infestus</i>	---; ---; 163, 364	Hopkins	1947
<i>infestus</i> Rothschild			
<i>infestus</i> <i>selindae</i> de Meillon	---; ---; 292	de Meillon et al.	1961
<i>notabilis</i> (Jordan)	---; ---; 115	de Meillon et al.	1961
<i>piger</i> Jordan	---; ---; 320	Hopkins	1947
<i>proximus</i> Smit	---; ---; 61	de Meillon et al.	1961
<i>schoutedeni</i> Berteaux	---; ---; 44	de Meillon et al.	1961
<i>smiti</i> Johnson	---; ---; 364	de Meillon et al.	1961
<i>stratiotes</i> (Rothschild)	---; ---; 115	de Meillon et al.	1961
<i>vates</i> Jordan	---; ---; 14, 44	de Meillon et al.	1961
<i>LISTROPSYLLA</i>			
<i>agrippinae</i> (Rothschild)	---; ---; 39, 292	de Meillon et al.	1961
	---; ---; 322	Chabaud	1947
<i>aricinae</i> de Meillon	---; ---; 56, 322	de Meillon et al.	1961
<i>cerrita</i> Jordan	---; ---; 322	Jordan	1930
<i>chelura</i> Rothschild	---; ---; 39, 322	de Meillon et al.	1961
	---; ---; 163, 320	Bedford	1926
<i>dolosa</i> Rothschild	---; ---; 44, 163, 230, 320, 364	de Meillon et al.	1961
<i>dolosa</i> <i>dolosa</i> Rothschild	---; ---; 163, 230, 320, 364	Jordan	1930
<i>dolosa</i> <i>stygia</i> (Rothschild)	---; ---; 320, 322	da Costa Lima & Hathaway	1946

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>LISTROPSYLLA</i>			
<i>dorippae</i> Rothschild	---; ---; 43, 56, 292, 322	de Meillon et al.	1961
<i>fouriei</i> de Meillon	---; ---; 322	de Meillon et al.	1961
<i>prominens</i> Jordan	---; ---; 56, 292, 322	de Meillon et al.	1961
<i>stygius</i> Bedford	---; ---; 320	Hopkins	1947
	---; ---; 322	Chabaud	1947
<i>vicina</i> Rothschild	---; ---; 322	da Costa Lima & Hathaway	1946
<i>MACROSCELIDO-</i> <i>PSYLLA</i>			
<i>albertyni</i> de Meillon & Marcus	---; ---; 56	de Meillon et al.	1961
<i>MOEOPSYLLA</i>			
<i>sjostedti</i> Rothschild	---; ---; 163, 227, 230, 320, 364	Hopkins & Rothschild	1953
	---; ---; 292, 322	de Meillon et al.	1961
<i>MONOPSYLLUS</i>			
<i>sciurorum</i> Schränk	---; ---; 186	da Costa Lima & Hathaway	1946
<i>MYOXOPSYLLA</i>			
<i>laverani</i> Rothschild	---; ---; 8	Rosicky	1944
<i>NEOCOPTOPSYLLA</i>			
<i>vassiliewi</i> Wagner	---; ---; 316	Galliard	1934
<i>NOSOPSYLLUS</i>			
<i>atlanticus</i> Jordan	---; ---; 13, 211	Jordan	1937
<i>barbarus</i> Jordan & Rothschild	---; ---; 8, 316	da Costa Lima & Hathaway	1946
	---; ---; 211	Blanc et al.	1962
<i>fasciatus</i> Bosc d'Antic	---; ---; 39, 163, 322. (Accepted vector of plague)	de Meillon et al.	1961
	---; ---; 89	Bauvallet	1925
	---; ---; 96	Bacot et al.	1914
	---; ---; 163	Hopkins	1947
	---; Jan.-July and Dec.; 211	Ristorcelli	1945

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>NOSOPSYLLUS</i>			
<i>henleyi</i>	---; ---; 8	da Costa Lima & Hathaway	1946
<i>mauretanicus</i> Jordan & Rothschild			
<i>henleyi</i> <i>oratus</i> Jordan	---; ---; 8	da Costa Lima & Hathaway	1946
	---; ---; 211	Blanc et al.	1962
<i>incisus</i> Jordan	---; ---; 163, 320	Hopkins	1947
<i>londiniensis</i> (Rothschild)	---; ---; 322. (Vector of plague)	de Meillon et al.	1961
<i>maurus</i> Jordan & Rothschild	---; ---; 8	Jordan	1937
	---; ---; 316	da Costa Lima & Hathaway	1946
<i>OXYPARIUS</i>			
<i>isomalus</i> (Waterston)	---; ---; 43	Marcus	1961
	---; ---; 56, 163	Hopkins & Rothschild	1956
	---; ---; 322	Hopkins	1947
<i>PARACTENOPSYLLUS</i>			
<i>kerguisteli</i> Wagner	---; ---; 186	Roubaud & Girard	1943
<i>PARAPSYLLUS</i>			
<i>longicornis</i> Enderlein	---; ---; 259	Jordan & Rothschild	1923b.
<i>longicornis</i> <i>humboldti</i> Jordan	---; ---; 56, 322	de Meillon et al.	1961
<i>PARAPULEX</i>			
<i>chephrenis</i> (Rothschild)	---; ---; 96, 102	Hopkins & Rothschild	1953
<i>echinatus</i> Smit	---; ---; 163	de Meillon et al.	1961
<i>PARIODONTIS</i>			
<i>riggenbachii</i> (Rothschild)	---; ---; 14, 54, 322	Bedford	1926
	---; ---; 56, 100, 214	da Costa Lima & Hathaway	1946
	---; ---; 163, 316, 364	Sharif	1930
	---; ---; 201	Jordan	1925
	---; ---; 211	Jordan	1936

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PARIODONTIS</i>			
<i>riggenbachii</i>	---; ---; 8, 14, 102, 163, 211, 27, 292, 320, 364	Hopkins & Rothschild	1953
<i>riggenbachii</i> (Rothschild)	---; ---; 43, 56, 214, 230, 299, 322	de Meillon et al.	1961
<i>FRAOPSYLLA</i>			
<i>ingrami</i>	---; ---; 226	de Meillon	1938
<i>de Meillon</i>	---; ---; 322	Langeron	1939
<i>powelli</i> Ingram	---; ---; 322	Hopkins & Rothschild	1956
<i>PROCAVIOPSYLLA</i>			
<i>angolensis</i> Jordan	---; ---; 14, 56, 230	Hopkins & Rothschild	1953
	---; ---; 43, 292	de Meillon et al.	1961
	---; ---; 322	Bedford	1936
<i>creusae</i> Rothschild	---; ---; 322	Hopkins & Rothschild	1953
<i>divergens</i> (Jordan & Rothschild)	---; ---; 322	Hopkins & Rothschild	1953
<i>isidis</i> (Rothschild)	---; ---; 102, 163	Hopkins & Rothschild	1953
	---; ---; 284	da Costa Lima & Hathaway	1946
<i>promelas</i> (Fox)	---; ---; 163, 364	Hopkins & Rothschild	1953
<i>spinifer</i> Jordan	---; ---; 14	Hopkins & Rothschild	1953
	---; ---; 54	da Costa Lima & Hathaway	1946
<i>PULEX</i>			
<i>irritans</i> Linnaeus	---; ---; 8 ²	Foley	1929
	---; suspected vector of bubonic plague; 8, 211, 316	Chabaud	1947
	---; in houses: 8°, 273, 322°. ---; ---; 14, 56°, 96°, 102°, 163°, 186, 187, 213, 253, 267, 284, 316.	Hopkins & Rothschild	1953

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PULEX</i>			
<i>irritans</i> Linnaeus (cont.)	---; ---; 39, 273, 292, 364. ---; held responsible for interhuman transmission of plague; 211. ---; in houses, naturally infected with <i>Pasteurella pestis</i> , suspected of interhuman transmission of plague; 322	de Meillon et al.	1961
	---; ---; 61°	Grenier et al.	1961 (1962)
	---; ---; 89	Bauvallet	1925
	---; Jan.-Dec., peak in April; 96	Williams	1925
	---; ---; 102, 284, 322	Bequaert	1930
	---; - -; 132	Pinto & de Almeida	1947
	---; ---; 163°. ---; ---; 320. (Cosmopolitan parasite of man)	Hopkins	1947
	---; ---; 176	Patanè	1930
	---; domestic; 186	Fonquernie	1932
	---; ---; 201°	Jordan	1925
	---; ---; 211*°	Delanoë	1932
	---; June-Aug.; 211	Ristorcelli	1945
	---; ---; 273*°	Mathis & Advier	1932
	---; in houses; 316	Gobert	1932
<i>irritans</i> var. <i>fulvus</i> Ioff	---; ---; 211	Delanoë	1932 a.
<i>pallidus</i> (Taschenberg)	---; ---; 96, 282	Baker	1895
<i>raptoris</i> Weiss	---; ---; 316	Weiss	1929
<i>RHINOLOPHOPSYLLA</i> <i>ashworthi</i> (Waterston)	---; ---; 322	Hopkins & Rothschild	1956

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>RHINOLOPHOPSYLLA</i>			
<i>supensis</i>	---; ---; 284	Marcus	1961
Jordan & Rothschild	---; ---; 322	Hopkins & Rothschild	1956
<i>setosa</i>	---; ---; 163	Hopkins & Rothschild	1956
Jordan			
<i>unipunctata</i>	---; ---; 3	Hopkins & Rothschild	1956
<i>arabae</i>			
Jordan & Rothschild			
<i>ROOSEVELDIPSYLLA</i>			
<i>georgiae</i>	---; ---; 14	Jordan	1936
Fox			
<i>SARCOPSYLLA</i>			
<i>gallinae</i>	---; ---; 44	Roubaud & van Saceghem	1916
Westwood			
	---; ---; 186	Girard & Legendre	1925
	---; ---; 211	Delanoë & Lelaurin	1923
	---; ---; 273	Mathis et al.	1927
<i>penetrans</i>	---; ---; 44	Roubaud & van Saceghem	1916
Linnaeus			
	---; invaded cutaneous fibroma; 206	Deschiens et al.	1960
<i>EPIDIPSYLLA</i>			
<i>canis</i>	---; ---; 36, 211	Hopkins & Rothschild	1953
(Dale)			
	---; ---; 186	Girard	1928
<i>confusus</i>	---; ---; 273	Noc	1922
Tasch.			
<i>STEVOFENIA</i>			
<i>incognita</i>	---; ---; 316	Weiss	1930
Weiss			
<i>tripartita</i>	---; ---; 8, 36	Weiss	1930
(Tiraboschi)			
	---; ---; 211	Blanc et al.	1962
	---; Nov., Dec., Feb.-Apr.; 316	Reynal & Wassilief	1933

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>STENOPONIA</i>			
<i>tripectinata</i> <i>acmaea</i> Jordan	---; ---; 96	Hopkins & Rothschild	1962
<i>tripectinata</i> <i>barcana</i> Jordan	---; ---; 176	Hopkins & Rothschild	1962
<i>tripectinata</i> <i>blanda</i> Jordan	---; ---; 96	Hopkins & Rothschild	1962
<i>tripectinata</i> <i>inenerata</i> Weiss	---; ---; 8, 316	Hopkins & Rothschild	1962
<i>tripectinata</i> <i>megaera</i> Jordan	---; ---; 8, 211	Hopkins & Rothschild	1962
<i>tripectinata</i> <i>separata</i> Jordan	---; ---; 96	Hopkins & Rothschild	1962
<i>tripectinata</i> <i>tenax</i> Jordan	---; ---; 8	Hopkins & Rothschild	1962
<i>tripectinata</i> <i>thinophila</i> Jordan	---; ---; 8, 187	Hopkins & Rothschild	1962
<i>tripectinata</i> <i>tingitana</i> Jordan	---; ---; 8	Hopkins & Rothschild	1962
<i>tripectinata</i> <i>tripectinata</i> (Tiraboschi)	---; ---; 8, 187	Hopkins & Rothschild	1962
<i>STENOPSYLLA</i>			
<i>truncatella</i>	---; ---; 8	Grenouilleau	1946
<i>STIVALIUS</i>			
<i>afer</i> (Rothschild)	---; ---; 14	Jordan & Rothschild	1922
<i>afer</i> <i>afer</i> (Rothschild)	---; ---; 14	de Meillon et al.	1961
	---; ---; 320	da Costa Lima & Hathaway	1946
<i>afer</i> <i>nigeriensis</i> Jordan	---; ---; 156, 226	de Meillon et al.	1961

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>STIVALIUS</i>			
<i>afar</i> <i>timanus</i> Jordan	---; ---; 279	de Meillon et al.	1961
<i>ahalae</i> Rothschild	---; experimental vector of bubonic plague; 322°. (Remain infective for 14 days)	Chabaud	1947 a.
<i>aporus</i> Jordan & Rothschild	---; ---; 322	Bedford	1926
<i>richardi</i> Jordan	---; ---; 44	de Meillon et al.	1961
<i>sellatus</i> Jordan & Rothschild	---; ---; 13	de Meillon et al.	1961
	---; ---; 320	Hopkins	1947
<i>torvus</i> (Rothschild)	---; ---; 44, 364	de Meillon et al.	1961
	---; ---; 61	da Costa Lima & Hathaway	1946
	---; ---; 163, 320. (Found at elevation of 5,000-6,000 ft.)	Hopkins	1947
	---; ---; 226	Jordan & Rothschild	1922
<i>vancouveri</i> Berteaux	---; ---; 44	de Meillon et al.	1961
<i>SYNOPSISYLLUS</i> <i>fonquernii</i> Wagner & Roubaud	---; in houses, Aug., Oct.; 186	Brygoo & Rajenison	1960
<i>SYNOSTERNUS</i> <i>burtoni</i> Marcus & de Meillon	---; ---; 284	de Meillon et al.	1961
<i>caffer</i> (Jordan & Rothschild)	---; ---; 43, 56. (Experimental transmission of plague)	de Meillon et al.	1961
	---; ---; 322	Hopkins & Rothschild	1953
<i>cleopatrae</i> Rothschild	---; ---; 8, 13, 96, 225, 253, 273	Hopkins & Rothschild	1953
	---; ---; 226	de Meillon et al.	1961
	---; ---; 316	Wassilieff	1931

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>SYNOSTERNUS</i> <i>pallidus</i> (Taschenberg)	---; ---; 8, 225, 226	Hopkins & Rothschild	1953
	---; ---; 13, 96, 316. (In houses)	Chabaud	1947
	---; ---; 61	Grenier et al.	1961 (1962)
	---; ---; 211. ---; domestic, probable vector of plague; 273.	Kartman	1946
	---; Mar.-Dec.; 273	Advier	1933
	---; spontaneous infection with bubonic plague, in houses; 273°. (Less capable of transmitting bubonic plague from rat to man)	Chabaud	1947 a.
<i>pallidus</i> <i>infestus</i> (Wagner)	---; ---; 8	da Costa Lima & Hathaway	1946
<i>pallidus</i> <i>pallidus</i> (Taschenberg)	---; ---; 14, 96, 282	da Costa Lima & Hathaway	1946
<i>somalicus</i> (Jordan & Rothschild)	---; ---; 102, 163, 320	Hopkins & Rothschild	1953
	---; ---; 284	da Costa Lima & Hathaway	1946
<i>THAUMAPSYLLA</i> <i>breviceps</i> Rothschild	---; ---; 322	da Costa Lima & Hathaway	1946
<i>breviceps</i> <i>breviceps</i> Rothschild	---; ---; 44	Marcus	1961
	---; ---; 322	Hopkins & Rothschild	1956
<i>dina</i> Jordan	---; ---; 44, 163	Hopkins & Rothschild	1956
	---; ---; 320	Hopkins	1947
<i>FUNGA</i> <i>penetrans</i> (Linnaeus)	---; ---; 13°, 14°, 100°, 175°, 322°	Bequaert	1930
	---; ---; 13, 163, 275	Gordon	1941
	---; ---; 14, 115, 214	de Meillon et al.	1961
	---; ---; 44, 186°, 226°, 230°, 279°, 364°. ---; ---; in houses; 163	Hopkins & Rothschild	1953
	---; ---; 61°, 163°, 273°, 275°, 284°, 316°, 320°, 364°	Sharif	1930

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TINGA</i>			
<i>penetrans</i> (Linnaeus) (cont'd)	---; ---; 54, 57	Bedford	1926
	---; ---; 102	Bonelli	1940
	---; ---; 123	Simpson	1914
	---; ---; 132	Pinto & de Almeida	1947
	---; ---; 186. (Found on man)	Chabaud	1947 a.
	---; ---; 186°	Geigy & Herbig	1955
<i>TYPHLOPHRA</i>			
<i>frivolosus</i> <i>frivolosus</i> Jordan & Roths- child	---; ---; 8	Hopkins & Rothschild	1962
<i>poppei</i> Wagner	---; ---; 8	Hopkins & Rothschild	1962
<i>XENOPSYLLA</i>			
<i>achilla</i> de Meillon	---; ---; 214	de Meillon	1947
<i>requisetorum</i> (Enderlein)	---; ---; 113	de Meillon et al.	1961
	---; ---; 123, 132, 163, 226, 273	Hopkins & Rothschild	1953
	---; ---; 230	da Costa Lima & Hathaway	1946
<i>actia</i> Rothschild	---; ---; 57*	Jorge	1935
	---; ---; 123	Evans	1922
	---; ---; 163	Hopkins & Rothschild	1953
	---; ---; 273	Gaschen	1933
	---; ---; 364	Hopkins	1947
<i>laevicornis</i> Jordan	---; ---; 102, 364	de Meillon et al.	1961
	---; ---; 163	Hopkins & Rothschild	1953
	---; ---; 320	Chabaud	1947

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>XENOPSYLLA</i>			
<i>bechuanalandica</i> de Meillon	---; ---; 43	Hopkins & Rothschild	1953
	---; ---; 292, 322	de Meillon et al.	1961
<i>blancoi</i> Smit	---; ---; 211	Blanc et al.	1962
<i>brasilienensis</i> Baker	Debris; ---; 44°. (Good experimental and natural vector of bubonic plague)	Chabaud	1947 a.
	---; ---; 39, 227, 292, 299, 322*. ---; huts; 43. ---; experimentally transmits plague; 44.	de Meillon	1961
	---; ---; 44*	Chabaud	1947
	---; ---; 14, 43, 56, 186, 214, 230, 273, 279, 320, 322, 364	Hopkins & Rothschild	1953
	---; ---; 54	Bedford	1926
	---; ---; 57*	Jorge	1935
	---; ---; 61	Grenier et al.	1961 (1962)
	---; ---; 63	Najera	1943
	---; ---; 123	Burrianan	1925
	---; in houses; 163	Heisch et al.	1953
	---; ---; 163*, 320*, 364*. (Primarily caught in native huts)	Hopkins	1947
	---; ---; 163. (Vector of plague in inland)	Roberts	1935
	---; ---; 163°	Anderson	1924
	---; Oct.-Nov.; 226	Connal	1926
	---; ---; 320*, 364*	Hopkins	1947
	---; ---; 322*	Murray	1929
<i>caffer</i> Jordan & Rothschild	---; ---; 322	Jordan & Rothschild	1923 a.
<i>cheopis</i> Rothschild	---; occasionally attacks man; 8°	Greroilleau	1946
	---; ---; 13, 14, 102, 117, 214, 225, 282	Hopkins & Rothschild	1953
	---; ---; 44*, 96*. ---; in houses; 186	Chabaud	1947
	---; ---; 56, 227, 292, 299, 322*. ---; in huts; 322	de Meillon et al.	1961

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>XENOPSYLLA</i>			
<i>sheepi</i>	---; ---; 57*	Jorge	1935
Rothschild (cont.)	---; ---; 61	Grenier et al.	1961
	---; ---; 89	Bauvallet	1925
	---; ---; 96*	Chabaud	1947
	---; ---; 123. (Vector of plague)	Simpson	1914
	---; in houses; 163	Heisch et al.	1953
	---; experimentally transmits Jos strain of rickettsia; 163	Findlay & Elmes	1947
	---; ---; 163*	Anderson	1924
	---; ---; 163*, 320*, 364*	Hopkins	1947
	---; ---; 176	Patanè	1930
	---; Jan.-Dec., peak Feb.-Apr.; 186	Robic	1937
	---; ---; 186*	Geigy & Herbig	1955
	---; Jan.-Dec., peak Apr.-Oct.; 211	Ristorcelli	1945
	---; Oct.-Nov.; 226	Connal	1926
	---; Jan.-Dec.; 273	Advier	1933
	---; ---; 273*	Mathis & Advier	1932
	---; suspected vector of plague; 279	Blacklock & Thompson	1924
	---; ---; 284	da Costa Lima & Rathaway	1946
	---; all year; 316	Reynal & Wassilieff	1933
	---; ---; 319	Le Gac	1946
	---; in houses; 320	Hopkins	1949
	---; ---; 322*	Murray	1929
<i>shepherdensis</i>	---; ---; 96	Chabaud	1947
<i>shepherdensis</i> Rothschild	---; ---; 8	Jordan & Rothschild	1923

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>XENOPSYLLA</i>			
<i>cleopatrae</i> (Rothschild)	---; ---; 8	Jordan & Rothschild	1923
	---; ---; 96	Barot et al.	1914
<i>conformis</i> <i>mycerini</i> (Rothschild)	---; ---; 8, 96, 316	Hopkins & Rothschild	1953
<i>cornigera</i> Smit	---; ---; 292	de Meillon et al.	1961
<i>creusae</i> Rothschild	---; ---; 322	Bedford	1926
<i>crinita</i> Jordan & Rothschild	---; ---; 163, 364	Hopkins & Rothschild	1953
<i>cryptonella</i> de Meillon & Hardy	---; ---; 322	de Meillon et al.	1961
<i>cunicularis</i> Smit	---; ---; 211	Blanc et al.	1962
<i>davisi</i> de Meillon	---; ---; 322	Hopkins & Rothschild	1953
<i>debilis</i> Jordan	---; ---; 163, 364	Hopkins & Rothschild	1953
<i>difficilis</i> Jordan	---; ---; 163, 364	Hopkins & Rothschild	1953
<i>divergens</i> Jordan & Rothschild	---; ---; 322	Bedford	1926
<i>equisetosus</i>	---; ---; 226	Pearse	1928
<i>eridos</i> Rothschild	---; ---; 56	Jordan	1936
	---; experimental vector of bubonic plague; 322*	Chabaud	1947
	---; naturally infected with <i>Pasteurella pestis</i> ; 322	de Meillon et al.	1961
	---; ---; 322*	Murray	1929
<i>erilli</i> Rothschild	---; ---; 8	da Costa Lima & Hathaway	1946
	---; ---; 43	de Meillon et al.	1961

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>leishmanii</i> Rothschild (cont'd)	---; ---; 56, 322	Hopkins & Rothschild	1953
	---; ---; 322*	Chabaud	1947
<i>fragilis</i> de Meillon	---; ---; 299	Hopkins & Rothschild	1953
	---; ---; 322	da Costa Lima & Hathaway	1946
<i>geldingensis</i> de Meillon	---; ---; 322	Hopkins & Rothschild	1953
<i>georgi</i> (Fox)	---; ---; 14	Hopkins & Rothschild	1953
<i>grainieri</i> Smit	---; ---; 163	de Meillon et al.	1961
<i>gratiosa</i> Jordan & Rothschild	---; ---; 63	Hopkins & Rothschild	1953
<i>harrisi</i> Jordan	---; ---; 292, 322	Hopkins & Rothschild	1953
<i>hipponensis</i> de Meillon	---; ---; 43, 44, 230	Hopkins & Rothschild	1953
	---; 227, 292. ---; naturally infected with <i>Pasteurella pestis</i> ; 322	de Meillon et al.	1961
	---; experimentally transmits plague from rodent to rodent; 322	Chabaud	1947
<i>hirsuta</i> Ingram	---; experimental infection and transmission of bubonic plague; 322	Chabaud	1947 a
<i>hirsuta</i> <i>hirsuta</i> Ingram	---; ---; 322. (Experimental transmission of plague)	de Meillon et al.	1961
<i>hirsuta</i> <i>placidia</i> de Meillon	---; ---; 322	Hopkins & Rothschild	1953
<i>humilis</i> Jordan	---; ---; 163	Hopkins & Rothschild	1953
	---; ---; 364	Hopkins	1947
<i>isidis</i> Rothschild	---; ---; 163, 322	Bedford	1926

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>XENOPSYLLA</i>			
<i>lobengulae</i> de Meillon	---; ---; 322	Hopkins & Rothschild	1953
<i>roussleti</i> Sait	---; in nest of <i>Pterodroma</i> on cliff at entrance to grotto; 61	Grenier et al.	1961 (1962)
<i>gallieri</i> de Meillon	---; ---; 43, 322	Hopkins & Rothschild	1953
	---; ---; 56, 227	de Meillon et al.	1961
	---; ---; 186	de Meillon	1947
<i>roosei</i> (Rothschild)	---; ---; 8, 96	da Costa Lima & Hathaway	1946
	---; ---; 316	Wassilieff	1931
<i>nilotica</i> (Jordan & Rothschild)	---; ---; 13	Hopkins & Rothschild	1953
	---; ---; 96	da Costa Lima & Hathaway	1946
<i>nubica</i> Rothschild	---; ---; 8	da Costa Lima & Hathaway	1946
	---; ---; 13, 56, 96, 123, 225, 226, 230, 273	Hopkins & Rothschild	1953
	---; ---; 43, 364	de Meillon et al.	1961
	---; ---; 61	Grenier et al.	1961 (1962)
	---; ---; 163, 320. (Efficient vector of plague in West Africa)	Hopkins	1947
	---; ---; 226	Pearse	1928
	---; ---; 322	Bedford	1926
<i>occidentalis</i> de Meillon	---; ---; 56	Langeron	1939
<i>pasiphae</i> de Meillon	---; ---; 322	de Meillon	1947
<i>philoxera</i> Hopkins	---; ---; 39, 227, 322. (Experimental transmission of plague)	de Meillon et al.	1961
	---; ---; 43, 56	Hopkins & Rothschild	1953

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>XENOPSYLLA</i>			
<i>phyllomac</i> de Meillon	---; ---; 43, 322	Hopkins & Rothschild	1953
<i>piriei</i> Ingram	---; ---; 43. ---; naturally infected with <i>Pasteurella pestis</i> ; 322	de Meillon et al.	1961
	---; ---; 56	Hopkins & Rothschild	1953
	---; ---; 230	Lamborn	1938
	---; associated with plague; 322	Chabaud	1947
<i>ramensis</i> Rothschild	---; ---; 8, 96, 253	Foley	1929
	---; ---; 211	Hopkins & Rothschild	1953
	---; in houses; 316	Gobert	1932
<i>robertsi</i> Jordan	---; ---; 163	Hopkins & Rothschild	1953
	---; ---; 214, 230, 322, 364	de Meillon et al.	1961
	---; ---; 320	Hopkins	1947
<i>sarodes</i> Jordan	---; ---; 163	Hopkins & Rothschild	1953
<i>scopulifera</i> (Rothschild)	---; ---; 43, 230, 299	de Meillon et al.	1961
	---; ---; 56, 322	Hopkins & Rothschild	1953
	---; ---; 214	Bedford	1926
<i>sulcata</i> Ingram	---; ---; 322	Hopkins & Rothschild	1953
<i>syngenis</i> Jordan	---; ---; 227, 292, 364	de Meillon et al.	1961
	---; ---; 230	Chabaud	1947
<i>tanganyikensis</i> Marcus, de Meillon & Davis	---; ---; 364	de Meillon et al.	1961
<i>taractes</i> Jordan & Rothschild	---; ---; 8	Hopkins & Rothschild	1953
<i>taractes</i> <i>lybica</i> Wagner	---; ---; 316	da Costa Lima & Hathaway	1946

TABLE 1 - FLEAS (conclusion)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>XENOPSYLLA</i>			
<i>taractes</i>	---; ---; 8	da Costa Lima & Hathaway	1946
<i>taractes</i> Jordan & Rothschild			
<i>torta</i>	---; ---; 44, 214, 230	Hopkins & Rothschild	1953
Jordan & Rothschild			
	---; ---; 163	da Costa Lima & Hathaway	1946
	---; ---; 292, 322	de Meillon et al.	1961
<i>trifaria</i>	---; ---; 56	de Meillon et al.	1961
de Meillon			
	---; ---; 322	Hopkins & Rothschild	1953
<i>trifaria</i> <i>orientalis</i>	---; ---; 214	de Meillon et al.	1961
Marcus, de Meillon & Davis			
<i>trispinis</i>	---; ---; 322	Hopkins & Rothschild	1953
Waterston			
<i>versuta</i>	---; ---; 14, 163, 320	Hopkins & Rothschild	1953
Jordan			
	---; ---; 43, 322. ---; naturally infected with <i>Pasteurella pestis</i> ; 56	de Meillon et al.	1961
	---; ---; 364	Hopkins	1947
<i>XIPHIOPSYLLA</i>			
<i>apriona</i>	---; ---; 163	Hopkins & Rothschild	1956
Jordan & Rothschild			
<i>hippia</i>	---; ---; 163	Hopkins & Rothschild	1956
Jordan & Rothschild			
<i>hyperetes</i>	---; ---; 44, 163	Hopkins & Rothschild	1956
Jordan & Rothschild			
<i>lipa</i>	---; ---; 44, 163, 320	Hopkins & Rothschild	1956
Jordan			

TABLE 2 - SUMMARY OF DISEASES OR DISEASE ORGANISMS TRANSMITTED BY FLEAS

SPECIES	DISEASE OR DISEASE ORGANISM					COUNTRY
	VIRUS & RICKETTSIA	PROTOZOA	HELMINTHS	OTHER		
<i>CERATOPHYLLUS</i> <i>fusciatus</i> Bosc				Plague		322
<i>CHIASTOPSYLLA</i> <i>rossi</i> (Waterston)				Plague		322
<i>CTENOCEPHALUS</i> <i>canis</i> Curtis				Plague		322
<i>DINOPSYLLUS</i> <i>lypaeus</i> Jordan & Rothschild				Bubonic plague		44
				Plague		322
<i>LEPTOPSYLLA</i> <i>musculi</i> Duges				Plague		322
<i>PULEX</i> <i>irritans</i> Linnaeus				Plague		211
				Bubonic plague		273
<i>XENOPSYLLA</i> <i>astia</i> Rothschild				Plague		57
<i>brasiliensis</i> (Baker)				Bubonic plague		44
				Plague		57, 163, 320, 322, 364
				Bubonic plague		44, 186, 273
<i>cheopis</i> Rothschild				Plague		57, 163, 320, 322, 364
<i>eridos</i> Rothschild				Plague		322

TABLE 3 - FLEAS
(UNCONFIRMED ENTRIES)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CTENOCEPHALIDES</i>			
<i>canis</i> Curtis	---; naturally infected with plague; 44	van Hoof	1939
	---; ---; 320	Duke et al.	1934
<i>CTENOPHTHALMUS</i>			
<i>felis</i> <i>strongylus</i> Jordan	---; ---; 14	Jordan	1936
<i>ECHIDNOPHAGA</i>			
<i>galliracea</i> (Westwood)	---; experimentally infected with plague; 186	Sorel	1937
<i>LEPTOPSYLLA</i>			
<i>segnis</i> (Schönherr)	---; experimentally infected with plague; 186	Sorel	1937
<i>PULEX</i>			
<i>fasciatus</i> (Bosc d'Antic)	---; ---; 211	Corcuff	1934
<i>SYNOPSISYLLUS</i>			
<i>fonquermii</i> Wagner & Roubaud	---; natural and experimental infection and transmission of plague; 186	Sorel	1937
<i>TUNGA</i>			
<i>penetrans</i> (Linnaeus)	---; naturally infected with plague; 44	van Hoff	1939
<i>XENOPSYLLA</i>			
<i>brasiliensis</i> Baker	---; naturally infected with plague; 44	van Hoff	1939
<i>cheopis</i> Rothschild	---; naturally infected with plague; 44	van Hoff	1939

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1. BUGS

The bugs or Hemiptera seem to be uncommon as pests of man in Africa. The few entries comprise a variety of species, several of which are not obligated blood feeders. Only 24 species or subspecies are listed for this group.

TABLE 1 - BUGS

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>ANTHOCORIS</i> <i>congolensis</i> Brumpt	---; bites man occasionally; 44°	Strong et al.	1926
<i>kingi</i> Brumpt	---; ---; 13. (Bites man in October, evenings)	Lewis	1958
	---; ---; 13°	Strong et al.	1926
<i>BRACHYNOTOCORIS</i> <i>puncticornis</i> Put.	---; ---; 8°	de Bergevin	1924
<i>CAMPTOTYLUS</i> <i>yarsini</i> Mulsant & Rey	---; bites outdoors; 13°	Lewis	1958
<i>CIMEX</i> <i>boueti</i> Brumpt	---; ---; 131°	Chatton & Blanc	1918
<i>hemiptera</i> Fabricius	---; ---; 13	Lewis	1943
	---; naturally infected with typhus rickettsia organism. 44	Findlay & Elmes	1947
	---; ---; 163°, 320°	Corbet et al.	1961
	---; native wood-and-matting bedsteads in both plateau and lowland areas: 364	Lumsden	1955
	---; at times a veritable scourge in the prisons; 364	Aders	1917
<i>lectularius</i> Linnaeus	---; ---; 13°	Lewis	1943
	---; ---; 322	Whitehead	1962
	---; ---; 364	Aders	1917
<i>CEROTIADES</i> <i>pallidus</i> Rambur	---; bites man occasionally; 13°	Lewis	1958
<i>DYSDERCUS</i> <i>superstitiosus</i> Fabricius	---; naturally infected with herpetomonas, bites man under experimental and natural conditions; 279°	Blacklock	1923
<i>ECTOMOCORIS</i> <i>ululans</i> Ross	---; bites man occasionally; 8°	de Bergevin	1925
<i>EREMOYESCIA</i> <i>lewisi</i> Miller	---; ---; 13°	Lewis	1958

TABLE 1 - BUGS (conclusion)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>EUSCELIS</i> <i>curtipes</i>	---; ---; 13°	Lewis	1958
<i>vulneran</i> Bergevin	---; --- 13°	Lewis	1958
<i>GEOCORIS</i> <i>henoni</i> Put.	---; ---; 8°	de Bergevin	1926
	---; ---; 96. (Bites man)	de Bergevin	1925
<i>scutellaris</i> Put.	---; ---; 8°, ---; ---; 316. (Bites man)	de Bergevin	1925
<i>LEPTODEMUS</i> <i>bicolor</i> Iak	---; ---; 176°	Lewis	1958
<i>bicolor</i> var. <i>ven-</i> <i>tralis</i> Lindberg	---; reported to cause irritation and fever; 13°, 96°	Lewis	1958
<i>minutus</i> Jadowleff	---; ---; 8°, 176°	de Bergevin	1925
<i>MAURODACTYLUS</i> <i>albidus</i> var. <i>dis-</i> <i>coidalis</i> Reuter	---; ---; 8°	de Bergevin	1926
<i>PASIHA</i> <i>basiptera</i> Stål	---; ---; 13°	Lewis	1958
<i>PIEZOSTEPHUS</i> <i>afer</i> Reuter	---; ---; 13*°	Lewis	1958
<i>THAMNOTETRIX</i> <i>cellulosa</i> Lindberg	---; ---; 13°	Lewis	1958
<i>TRIATOMA</i> <i>rubrofasciata</i> (de Geer)	---; experimentally infected with <i>Trypanosoma cruzi</i> ; 14, 44, 111, 186, 275, 279, 364	Neiva & Lent	1941
	---; November to May, naturally infected with <i>Trypanosoma boylei</i> ; 186	Le Gac	1937
	---; ---; 322	Dias & Campos Seabra	1944
<i>TRIGONOTYLUS</i> <i>brevipes</i> Jakovleff	---; ---; 54°	Strong et al.	1926

TABLE 2 - SUMMARY OF DISEASES OR DISEASE ORGANISMS TRANSMITTED BY BUGS

SPECIES	DISEASE OR DISEASE ORGANISM					COUNTRY
	VIRUS &	PROTOZOA	HELMINTHS	OTHER		
	RICKETTSIA					
<i>Phlebotomus</i> Renter				Irritation & swelling	13	

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J. URTICATING AND VESICATING ARTHROPODS

The entries for urticating and vesicating arthropods are surprisingly few. Actually, only 9 species or subspecies are listed. One of these, *Exochus fuscicornis* Macklin, is listed only in Table 3 as an unconfirmed species.

TABLE 1. - URTICATING AND VESICATING ARTHROPODS

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CANTHARIS</i>			
<i>flavicornis</i> Dufour	---; ---; 273*	Rodhain & Houssiau	1915
<i>vestita</i> Dufour	---; ---; 273*	Rodhain & Houssiau	1915
<i>CYLINDROTHORAX</i>			
<i>strangulata</i> Gerst.	---; ---; 364*	Harris	1933
<i>EPICAUTA</i>			
<i>sapphirina</i> Maeklin	---; ---; 13*	Chalmers & King	1917
<i>tomentosa</i> Maeklin	---; ---; 13*	Chalmers & King	1917
<i>PAEDERUS</i>			
<i>crebrepunctatus</i> Eppelsheim	---; ---; 54*, 364 ---; enters houses; 163*	Earle Roberts & Tonking	1949 1935
<i>pabacus</i> Erichson	---; ---; 44*	Dallas	1936
<i>sabaeis</i> Erichson	---; experimentally produced small painful blisters when specimen was rubbed on skin; 13 ---; ---; 44* ---; June, July, Aug., Nov., experimentally pro- duced skin lesions if irritated beetles were placed on bare areas; 279	Lewis Pickel Gordon	1958 1940 1925

TABLE 2 - SUMMARY OF DISEASES OR DISEASE ORGANISMS TRANSMITTED BY
URTICATING AND VESICATING ARTHROPODS

SPECIES	DISEASE ORGANISM					COUNTRY
	VIRUS &					
	RICKETTSIA	PROTOZOA	HELMINTHS	OTHER		
	:	:	:	:	:	
<i>CANTHARIS</i> <i>flavicornis</i> Dufour				Vesicular dermatitis	273	
<i>vestita</i> Dufour				Vesicular dermatitis	273	
<i>CYLINDROTHORAX</i> <i>stragulata</i> Gerst.				Blister	364	
<i>EPICAUTA</i> <i>sapphirina</i> Macklin				Vesicular dermatitis	13	
<i>tomantosa</i> Macklin				Vesicular dermatitis	13	
<i>PAEDERUS</i> <i>crebrepunctatus</i> Eppelsheim				Conjunctivitis and blister on various parts of body	163	
				Conjunctivitis	54	
<i>pabacus</i> Erichson				Dermatitis	44	
<i>sabaesus</i> Erichson				Vesication	44	

TABLE 3. - URTICATING AND VESICATING ARTHROPODS
(UNCONFIRMED ENTRIES)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>EPICAUTA</i> <i>bisignata</i> Maeklin	---; ---; 43*	de Meillon	1940
<i>PAEDERUS</i> <i>crebrepunctatus</i> Eppelsheim	---; July-Aug.; 163*	Symes & Roberts	1934

TABLE 4. - URTICATING AND VESICATING ARTHROPODS
(UNCONFIRMED ENTRIES)

SPECIES	DISEASE ORGANISM					COUNTRY
	VIRUS &					
	RICKETTSIA	PROTOZOA	HELMINTHS	OTHER		
1911-1914 Macklin				Dermatitis		43
1914-1915 Eppelsheim				Dermatitis		163

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K. TICKS

The tick entries seldom include information on the immature forms separately from the adults. In fact, most of the entries contain only distributional data.

Ticks are especially important to livestock in Africa; and, also, some serious human disease organisms are transmitted by ticks. In Table 1 are listed 424 species or subspecies. All species listed as unconfirmed (Table 3) are included in Table 1.

TABLE 1 - TICKS

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>AMBLICENTOR</i>			
<i>circumguttatus</i> (Neumann)	---; 319	Morel & Finelle	1961
<i>rhinocerinus</i> (Denny)	---; 71	Morel & Graber	1961
<i>AMBLIONMA</i>			
<i>astrion</i> Dönitz	---; 4, 123, 279	Robinson	1926
	---; 44	Pierquin & Nimageers	1957
	---; 248, 267	Tendeiro	1956
	---; 319	Morel & Mouchet	1958
<i>breviscutatum</i> Neumann	---; 44	Robinson	1926
<i>clypeolatum</i> Dönitz	---; 284	Stella	1940
	---; 359	Tarantino	1939
<i>cohaerens</i> Dönitz	---; 13, 113, 285, 361, 364	Hoogstraal	1956
	---; 14	Dias	1950
	Moist highlands; 44, 320. ---; 226	Theiler	1962
	---; 54	Lewis	1939
	---; 61	Rageau	1953a.
	---; 163	Robinson	1926
	---; 319	Theiler & Robinson	1954
<i>crenatum</i> Neumann	---; 163	Anastos	1950
	---; 175	Bedford	1926
	---; 322	Robinson	1926
<i>cuneatum</i> Neumann	---; 14, 115, 156. (Forest tick, bites man.)	Theiler	1962
	---; 44, 123, 226, 275, 279, 307, 320	Robinson	1926
	---; 54	Lewis	1939
	Mar., June-Aug., forest; 61	Morel & Mouchet	1958
	---; 175	Bequaert	1930

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>depressum</i>	---; 284	Stella	1938a.
<i>abundatum</i> Gerstaecker	---; 44	Bequaert	1936a.
	---; 54	Lewis	1939
	---; 96, Kundoa-Irangi, Kumi Bukedi	Robinson	1926
	---; 102, 359	Tarantino	1939
	---; 163	Lewis	1931a.
	---; 214	Theiler	1962
	---; 284	Stella	1938
	Apr.-May; 364	Aeschlimann	1961
<i>falsomarmoratum</i> Rondelli	---; 102, 163, 284, 364	Theiler & Salisbury	1959
<i>gemma</i> Dönitz	---; 54	Dick & Lewis	1947
	Introduced from East Africa, but not established; 96	Hoogstraal & Kaiser	1958
	---; 102, 284	Stella	1940
	---; 163, 320	Robinson	1926
	---; 285	Theiler	1962
	---; 292	Jack	1942
	---; 359	Tarantino	1939
	July; 364	Aeschlemann	1961
<i>hebraeum</i> (Koch)	---; 14, 227. (Attacks man)	Robinson	1926
	Thorn country, very rare; 43, 322. Subtropical evergreen and deciduous tree and thorn forests; 214, 292, 364. Evergreen deciduous bush and subtropical forest, temperate evergreen forest, tall grasslands; 322.	Theiler	1948
	Naturally infected with tick bite fever (<i>Rickettsia conorii</i>); 43	Zumpt	1958
	---; 44, 163, 344	Bedford	1926
	---; 54	Lewis	1939
	---; 61	Rageau	1953a.
	---; 100, 284	Stella	1938

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>AMBLYOMMA</i>			
<i>hebraeum</i> (Koch) (cont.)	Prevalent in Galla and Sidamia region; 102. ---; 359	Tarantino	1939
	---; 186	Poisson	1927
	---; 230, 320. (Bites man)	Theiler	1962
	---; 292	Jack	1928
	---; 299	Bedford	1936
	Common in "veld" on grasses; 322*	Pijper & Dau	1934
	---; 322*	Charters	1946
<i>hebraeum</i> var. <i>eburneum</i> (Ger- stacker)	---; 44, 54, 102, 214, 322, 364	Howard	1908
	---; 284	Franchini	1929a.
<i>hebraeum</i> <i>lepidum</i> (Dönitz)	---; 284	Franchini	1929a.
<i>heburneum</i>	---; 102	Roetti	1939
<i>latum</i> Koch	---; 322	Robinson	1926
<i>lepidum</i> Dönitz	---; 13, 102, 163, 284, 364	Robinson	1926
	---; 54	Dick & Lewis	1947
	---; 71	Morel & Graber	1961
	Found on imported cattle, but not established in these areas; 96, 322. Imported from Sudan through cattle; 96. ---; 100	Hoogstraal	1956
	Experimentally infected with <i>Rickettsia prowazeki</i> ; 102	Reiss-Gutfreund	1956 (1957)
	---; 230. Dry thorn country; 320. (Bites man)	Theiler	1962
	---; 359	Tarantino	1939
<i>loculosum</i> Neumann	---; 186	Schulze	1937
	---; 275	Robinson	1926
<i>lusitanicum</i>	---; 284	Stella	1938

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>AMBLYOMMA</i>			
<i>marmoreum</i> Koch	---; 8, 13, 43, 44, 163, 214, 227, 230, 273, 284, 320, 322, 364	Robinson	1926
	---; 14, 56, 100, 113, 279	Hoogstraal	1956
	---; 39, 56, 299	Theiler & Salisbury	1959
	---; 54	Lewis	1939
	---; 102°	Charters	1946
	---; 292	Jack	1928
	---; 359	Tarantino	1939
<i>noceum</i> Robinson	---; 214, 292	Theiler & Salisbury	1959
<i>nuttalli</i> Dönitz	---; 13, 113, 214, 284, 322. Naturally infected with Q fever, <i>Coxiella burnetii</i> ; 132	Hoogstraal	1956
	---; 14, 57, 322	Theiler & Salisbury	1959
	---; 44	Bequaert	1931
	---; 54	Lewis	1939
	Savannah and forest, Feb., June-July; 61	Morel & Mouchet	1958
	---; 71, 156, 230, 273, 279, 299	Theiler	1962
	---; 89	Morel	1958
	---; 123, 226, 292, 320	Robinson	1926
	---; 163	Bequaert	1930
	---; 319°	Morel & Finelle	1961
	---; 361	Pierquin & Nimegeers	1957
	July; 364	Aeschlimann	1961
<i>ochraceum</i> Neumann	---; 364	Morstatt	1913
<i>paucipunctatum</i> Neumann	---; 14. (Bites man)	Theiler	1962
	---; 44	Bequaert	1930a.
	---; 54	Lewis	1939

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>AMBLYOMMA</i>			
<i>paulopunctatum</i> Neumann (cont.)	Forest regions of high precipitation, June; 61, 131, 132. ---; 111, 132, 156 ---; 123, 131, 175, 279, 320 ---; 206, 319	Morel & Mouchet Theiler & Salisbury Robinson Theiler & Robinson	1958 1959 1926 1954
<i>personatum</i> Neumann	---; 54 ---; 115, 163, 364	Lewis Robinson	1939 1926
<i>petersi</i> Karsch	---; 13 ---; 14, 163, 175, 186, 214, 227, 230, 320, 322, 364 ---; 44 ---; 54 ---; 284 ---; 292 ---; 359	King Robinson Bequaert Lewis Stella Jack Tarantino	1926 1926 1930a. 1939 1940 1942 1939
<i>pomposum</i> Dönitz	---; 13, 163, 320, 361 ---; 14, 44, 214, 227, 292, 364 ---; 54	Hoogstraal Robinson Lewis	1956 1926 1939
<i>rhinocerotis</i> (De Geer)	Rare; 13 ---; 44, 163, 214, 227, 230, 284, 292, 322, 364 ---; 102, 320 ---; 319	Hoogstraal Hoogstraal Theiler Morel & Finelle	1954 1956 1962 1961
<i>rufipes</i>	Naturally infected with <i>Neo-rickettsia</i> ; 112	Giroud et al.	1957
<i>rugosum</i> Koch	---; 102 ---; 359	Stella Tarantino	1940 1939
<i>schlottkei</i> Schulz	---; 102 ---; 359	Stella Tarantino	1940 1939
<i>silvaticum</i> Koch	---; 364	Morstatt	1913

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>AMBLYOMMA</i> <i>sparsum</i> Neumann	---; 13, 56, 100, 102, 163, 214, 230, 292, 320, 361, 364	Theiler & Salisbury	1959
	---; 14, 44, 227, 284	Theiler	1962
	---; 61, 71, 273	Morel & Mouchet	1958
<i>splendens</i>	---; 54	Lewis	1939
<i>splendidum</i> Giebel	---; 14, 44, 115, 123, 206, 226, 279	Robinson	1926
	Jan., May, July, savannahs, forests, regions, with heavy rainfall; 61	Morel & Mouchet	1958
	---; 89, 307	Morel	1958
	---; 131	Theiler	1962
	---; 132	Tendeiro	1956
	---; 156	Theiler & Robinson	1954
	---; 163	Lewis	1931a.
	---; 175	Bequaert	1930
	---; 319	Morel & Finelle	1961
	---; 320	Lewis	1934
	---; 364	Morstatt	1913
<i>sylvaticum</i> (De Geer)	---; 322	Theiler & Salisbury	1959
<i>theileri</i> Dias	---; 214	Theiler	1962
<i>tholloni</i> Neumann	---; 13, 14, 123, 226, 230, 279, 320	Robinson	1926
	Quite common; 44, 61, 175, 214	Bequaert	1930
	---; 54	Lewis	1939
	May, June; 61	Morel & Mouchet	1958
	---; 111, 156, 163, 254	Hoogstraal	1956
	---; 206	Theiler & Robinson	1954
	---; 284, 292, 322. (Bites man)	Theiler	1962

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>AMBLYOMMA</i> <i>tholloni</i> Neumann (cont.)	---; 319	Morel & Finelle	1961
	July-Aug., host man; 364	Aeschiemann	1961
<i>trimaculatum</i> Neumann	---; 44	Nuttall	1916
<i>variegatum</i> (Fabricius)	---; 13, 14, 54, 56, 89, 117, 123, 156, 163, 186, 226, 227, 279, 284, 320, 364	Robinson	1926
	---; 43	Theiler	1962
	Quite common; 44	Bequaert	1930
	Suspected vector of "fièvre boutonneuse"; 61°	Rageau	1953a.
	Apr.-May, larvae on man, ubiquitous, savannahs, forests; 61	Morel & Mouchet	1958
	---; 65, 111, 113°, 132, 186°, 214, 254, 285	Hoogstraal	1956
	---; 71, 131°, 132°, 201, 225, 279, 307, 324°	Morel	1958
	Introduced from Sudan and East Africa, but not established; 96	Hoogstraal & Kaiser	1958
	---; 100	Stella	1938
	Experimentally infected with <i>Rickettsia prowazeki</i> ; naturally infected with <i>Rickettsia prowazeki</i> ; 102	Reiss- Gutfreund	1956 (1957)
	Apr.-Aug.; 112	Lamontellerie	1960
	Abundant in Nov.-Feb.; 112°. ---; 131°.	Joyeux	1915
	---; 115, 206	Theiler & Robinson	1954
	Naturally infected with <i>Rickettsia conorii</i> ; 163	Heisch et al.	1962
	Experimentally transmitted rickettsiae to man; 163	Heisch et al.	1957
	---; 230°	Wilson	1950
	Adults thrive best in not wet season; 230	Wilson	1946
	Naturally infected with <i>Rickettsia conorii</i> and <i>Rickettsia burneti</i> ; 273	Giroud et al.	1957
	---; 292	Theiler & Salisbury	1959
	---; 319	Morel & Finelle	1961

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>AMBLYOMMA</i>			
<i>variegatum</i>	---; 522, 344	Bedford	1926
<i>Fabricius</i> (cont.)	---; 359	Tarantino	1939
	---; 361	Pierquin & Niemegeers	1957
	Abundant from Sept.-Mar. absent from Mar.-Sept.; 364	Lewis	1939
	Jan; 364	Aeschlimann	1961
<i>variegatum</i> <i>noens</i> Robinson	---; 344*	Bedford	1926
<i>APONOMMA</i>			
<i>exornatum</i> Koen	---; 8, 13, 14, 43, 56, 61, 100, 106, 111, 113, 123, 132, 163, 214, 226, 227, 292, 320. (Naturally infected with Q fever <i>Coxiella burnetii</i>)	Hoogstraal	1956
	---; 44, 112	Theiler & Robinson	1954
	---; 54	Lewis	1939
	Ground holes, rocky galleries, Jan., Apr., July-Aug., Nov.-Dec.; 61	Morel & Mouchet	1958
	---; 71, 115, 156, 206, 319	Theiler	1962
	---; 186	Poisson	1927
	---; 230	Wilson	1950
	---; 273	Bedford	1926
	---; 284	Stella	1940
	---; 285	Stella	1938
	---; 322	Bequaert	1930
	July-Aug.; 344	Aeschlimann	1961
<i>falsolacae</i> Schulze	--- 330	Wilson	1950
<i>flavomaculatum</i> (Lucas)	---; 71	Morel & Magimel	1959
	Apr.; 112	Lamontellerie	1960
	---; 319	Morel & Finelle	1961

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>Ap. v. m. m.</i> <i>franki</i> var. Schulze	---; 273, 307	Sautet	1936
<i>g. l. l.</i> Lucas	---; 322	Bedford	1926
<i>l. a. d.</i> Neumann	---; 13	King	1926
	---; 44, 175, 364	Bequaert	1930
	---; 163	Lewis	1931a.
	---; 279	Anonymous	1915
	---; 292	Jack	1942
	---; 322	Curson	1928
<i>l. a. d.</i> var. <i>expansa</i> Neumann	---; 214, 322	Howard	1908
<i>l. a. d.</i> <i>expansa</i> Neumann	---; 54	Lewis	1939
	---; 322	Bedford	1926
<i>l. a. d.</i> <i>l. a. d.</i> Neumann	---; 54	Lewis	1939
	---; 102	Stella	1940
<i>l. a. d.</i> Koch	---; 13, 14, 44, 56, 102, 111, 123, 132, 163, 175, 214, 226, 227, 230, 279, 292, 320, 322	Hoogstraal	1956
	Mar., May, Sept.; 61	Morel & Mouchet	1958
	---; 71	Morel & Magimel	1959
	---; 89, 156, 273	Theiler	1962
	Mar.-July; 112	Lamontellerie	1960
	---; 206	Theiler & Robinson	1954
	June, July; 364	Aeschlimann	1961
<i>n. g. l. a. d.</i> Hirst	---; 322	Bedford	1936
<i>o. h. n. a. d.</i> Neumann	---; 284, 364	Theiler	1962

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>APONOMMA</i>			
<i>transversale</i> Lucas	---; 44, 132, 156, 214, 273, 320, 324	Theiler	1962
	---; 61	Rageau	1953a.
	Apr.; 112	Lamontellerie	1960
	---; 322	Bedford	1926
<i>ARGAS</i>			
<i>aequalis</i> Neumann	---; 54	Lewis	1939
<i>boueti</i> Roubaud & Colas- Belcour	---; 13°, 14, 96, 111, 113, 163, 322. (Bites caused mild itching persisting for several weeks in warm weather.)	Hoogstraal	1956
	---; 56, 206	Theiler	1962
	---; 112. (Carries a kind of trypanosome)	Roubaud & Colas- Belcour	1933
	---; 115	Morel & Mouchet	1958
<i>brumpti</i> Neumann	---; 13°	King	1926
	---; 43, 163, 284	Bedford	1936
	---; 54. (Feed on man in laboratory)	King	1915
	---; 56, 102, 163°, 320, 322. (Bites may be quite painful to human beings and causes itching which lasts for years.)	Hoogstraal	1956
	---; 61	Colas-Belcour & Rageau	1962
	---; 96	Garnham	1954
	---; 214, 226, 364. (Harbours the protozoans <i>Echinozoon hoogstraali</i> and <i>Heptozoon argantis</i>)	Theiler	1962
<i>confusus</i> Hoogstraal	---; 13, 39, 43, 96, 163, 292, 322	Hoogstraal	1956
	---; 44, 56. (Bites man)	Theiler	1962
<i>hermanni</i> (Audouin)	---; 96	Hoogstraal & Kaiser	1958
<i>negreni</i> Dugès	---; 44	Theiler & Robinson	1954
	---; 322°. (Accidentally introduced in Southern Africa)	Bedford	1934

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
ARGAS			
<i>moubata</i> Murray	---; 13, 43, 44, 56, 61, 102, 163, 206, 227, 230, 284, Bedford 292, 316, 320, 322, 364. (Experimentally transmits <i>Treponema recurrentis</i> , <i>Treponema novyi</i> , <i>Treponema</i> <i>duttoni</i> , suspected capable of transmitting <i>Dipetalo-</i> <i>nema perstans</i> to man, chiefly parasitic on man)	Bedford	1934
<i>pavimentosus</i> (Neumann)	---; 56°	Bedford	1934
<i>perenqueyi</i> (Bedford & Hewitt)	---; 322	Bedford	1934
<i>persicus</i> Oken	In houses; 8, 13, 284, 322. ---; 13°, 14, 61, 102, 113, 123, 132, 226, 275, 320, 322°, 361 Enters houses; 8°	Hoogstraal Sergeant & Foley	1956 1922
	---; 39, 131	Theiler	1962
	Common in native huts; 43°	Zumpt	1958
	---; 44, 56, 96, 100, 163, 186, 211, 230, 316, 322, 364. (Attacks man)	Senevet	1937
	---; 54	Lewis	1939
	Chicken coop; 56	Sigwart	1915
	---; 71, 89, 156, 176, 201, 225, 273, 324	Morel	1958
	Naturally infected with <i>Salmonella typhimurium</i> ; 96	Floyd & Hoogstraal	1956
	In houses; 96	Hirst	1914
	---; 112	Lamontellerie	1960
	---; 176	Zanon	1923
	---; 214, 292, 322°	Bedford	1934
	---; 284	Stella	1938
	---; 316	Galli-Valerio	1914
	---; 344	Bedford	1924
<i>reflexus</i> Fabricius	Found in North Africa, (bites man)	Nuttall et al.	1911
	---; 8	Senevet	1937
	Apparently rare; 13	Hoogstraal	1954
	---; 89, 324	Morel	1958

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>ARGAS</i>			
<i>reflexus</i> Fabricius (cont.)	---; 96, 113	Hoogstraal	1956
	---; 112	Theiler & Robinson	1954
<i>reflexus</i> <i>nermani</i> Audouin	---, 13, 89, 102, 131, 156, 163. Naturally infected with West Nile virus; 96	Hoogstraal & Kohls	1960
	---; 71, 324	Theiler	1962
	Naturally infected with West Nile virus and chenua virus; 96	Schmidt & Said	1964
	Needs obscurity and humidity; 112	Lamontellerie	1960
<i>reflexus</i> <i>reflexus</i> Fabricius	---; 96. (Probably introduced in Egypt by migrating birds)	Hoogstraal & Kohls	1960
<i>savignyi</i> Audouin	---; 13, 42, 55, 96, 214, 284, 322, 344. Experiment- ally transmitted spirochaete from cases of human relapsing fever; 102. (Chiefly parasitic on man)	Bedford	1934
<i>striatus</i> Bedford	---; 322	Bedford	1934
<i>calane</i> <i>capensis</i> (Neumann.)	---; 136, 322	Bedford	1934
<i>transgaripei-</i> <i>nus</i> White	---; 39	Bedford	1934
	---; 96	Hoogstraal & Kaiser	1958
	---; 322	Bedford	1926
<i>vespertilio-</i> <i>nis</i> (Latreille)	---; 8, 96	Senevet	1937
	---; 15°, 14, 44, 113, 123, 163, 214, 322. (Mild itching resulting from bites may persist for several weeks)	Hoogstraal	1956
	---; 13, 292, 316, 322°	Bedford	1934
	Occasionally bites man, may enter houses; 43°	Zumpt	1958
	---; 61	Morel & Mouchet	1958
	---; 112	Theiler & Robinson	1954
	---; 361	Pierquin & Niemegeers	1957
	---; 364	Theiler	1962

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>DIPLOPHILUS</i> <i>annulatus</i> (Say)	---; 13	Arthur	1960
	---; 44, 61, 111, 175 279	Hoogstraal	1956
	---; 71	Morel & Magimel	1959
	---; 89, 123, 131, 156, 226, 319	Morel	1958
	---; 96	Hoogstraal & Kaiser	1958
	Savannah; 112. (Needs high rainfall, forest and savannah)	Morel & Mouchet	1958
	---; 176	Hoogstraal & Kaiser	1960
	---; 186°	Colas-Belcour & Millot	1948
	Naturally infected with neo-rickettsia; 211	Giroud et al.	1957
	---; 226	Johnston	1916
	---; 364	Lamontellerie	1960
<i>annulatus</i> <i>australis</i> Fuller	---; 364	Morstatt	1913
<i>annulatus</i> var. <i>calcaratus</i> (Birula)	Encountered in June-Sept.; 8	Senevet	1937
	---; 211	Charrier	1925
<i>annulatus</i> <i>decoloratus</i> Koch	---; 54, 163	Lewis	1939
	---; 292	Jack	1928
	---; 364	Morstatt	1913
<i>australis</i> Fuller	---; 96	Mason	1916
	---; 123	Simpson	1918
	---; 186°	Colas-Belcour & Millot	1948
	---; 230, 320, 364	Neave	1912
	---; 275	Dupont	1921
	---; 279	Yorke & Blacklock	1915
	---; 322	Poisson	1927

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>BOOPHILUS</i>			
<i>calcaratus</i> Birula	Active from Jan.-May and July-Dec., with peak in Sept.-Oct.; 8	Sergeant & Poncet	1937
	Active from July-Oct.; 8	Senevet & Rossi	1924
	---; 96, 102, 316	Minning	1934
<i>calcaratus</i> <i>balcanicus</i> Minning	---; 8	Minning	1934
<i>calcaratus</i> <i>palestinensis</i> Minning	---; 96	Minning	1934
<i>caudatus</i> Neumann	Thought to be introduced from the Far East through importation of animals; 186	Colas-Belcour & Millot	1948
<i>congolensis</i> Minning	---; 13, 71, 89, 112, 123, 131, 156, 175, 226, 279, 307, 319, 324	Theiler	1962
	---; 44, 206	Minning	1934
	---; 61	Rageau	1953a.
<i>decoloratus</i> Koch	---; 13, 14, 56, 100, 163, 214, 227, 284, 285, 292, 299, 364	Arthur	1960
	Short and tall grass; 39. Desert shrub, desert suc- culents and desert grass; 42, 56. Sub-tropical ever- green and deciduous tree and thorn forest, thorn coun- try; 43, 299. ---; 214. Temperate evergreen forest, evergreen sclerophyllous bush, sub-tropical evergreen and deciduous tree and thorn forest, short and tall grass, mixed grass, desert shrub; 322	Theiler	1949
	---; 43. (Prefer more humid areas, but avoids the dense tropical rain-forests; accused of transmitting tick-bite fever, <i>Rickettsia conori</i>)	Zumpt	1958
	---; 44, 102, 115, 123, 131, 175, 206, 273, 320, 344	Minning	1934
	May; 61	Morel & Mouchet	1958
	---; 61°	Rageau	1953a.
	--- 65, 111, 113, 226, 279, 284, 299, 361. Naturally infected with Q fever <i>Coxiella burnetii</i> ; 132. (Pre- sumed to transmit Boutonneuse fever <i>Rickettsia cono- rii</i>)	Hoogstraal	1956
	---; 71	Morel & Magimel	1959
	---; 89, 132, 156, 186, 201, 225, 307, 324	Morel	1958

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>BOOPHILUS</i>			
<i>decoloratus</i> Koch (cont.)	Introduced from Sudan and East Africa, but not established; 96	Hoogstraal & Kaiser	1958
	May; 112	Lamontellerie	1960
	---; 230*	Wilson	1943
	Naturally infected with neo-rickettsia; 273	Giroud et al.	1957
	---; 319	Theiler & Robinson	1954
	Most common tick; 322	Bedford	1920
	Common in veld on grasses; 322*	Pijper & Dau	1934
	---; 322*	Charters	1946
<i>fallax</i> Minning	---; 100, 214	Theiler	1962
	---; 186, 322, 364	Minning	1934
	---; 227	Theiler & Robinson	1954
	---; 230	Wilson	1950
<i>microplus</i> Canestrini	Asserted to be the only known species of <i>Boophilus</i> in Madagascar; 186	Uilenberg	1962
	---; 214, 227, 275, 292	Hoogstraal	1956
	---; 230	Wilson	1946
	---; 320, 364	Arthur	1960
	---; 322	Anastos	1950
<i>schulzei</i> Minning	---; 8, 187	Minning	1934
<i>winthemi</i> Karsch	---; 292, 322. (Probably introduced to Africa with horses from Argentina during the Boer War)	Jack	1928
<i>CERATIXODES</i>			
<i>uriae</i> White	---; 117	Theiler	1962
<i>COSMIOMMA</i>			
<i>hippopotamensis</i> (Denny)	---; 163	Arthur	1960
<i>DERMACENTOR</i>			
<i>circumguttatus</i> Neumann	Rare; 13	Hoogstraal	1954

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>DERMACENTOR</i>			
<i>circumguttatus</i>	---; 44, 175	Bequaert	1930
Neumann			
(cont.)	---; 54	Lewis	1939
	Mar., May; 61	Morel & Mouchet	1958
	---; 156, 361	Theiler & Robinson	1954
	---; 214, 320, 364	Theiler	1962
	---; 279	Simpson	1913
	---; 319	Bequaert	1931
<i>circumguttatus</i>	---; 13, 44, 61, 111, 156, 175, 279, 320	Hoogstraal	1956
<i>circumguttatus</i>			
Neumann			
<i>circumguttatus</i>	---; 214	Arthur	1960
var. <i>cunha-silvai</i>			
Dias			
<i>niveus</i>	---; 8, 211, 316	Senevet	1937
Neumann			
	---; 213	Senevet et al.	1933
<i>reticulatus</i>	---; 102	Stella	1938
Fabricius			
<i>rhinocerinus</i>	---; 13, 100	Hoogstraal	1956
Denny			
	---; 14, 44, 54, 56, 102, 163, 227, 230, 284, 292, 320, 322, 364	Arthur	1960
	On grass; 71	Morel & Mouchet	1958
	---; 214	Theiler	1962
<i>rhinoceros</i>	---; 284	Franchini	1929a.
De Geer			
<i>rhinocerotis</i>	---; 13	King	1926
(De Geer)			
	---; 44	Theiler & Robinson	1954
	---; 102, 284	Stella	1940
	---; 163	Lewis	1931a.
	---; 214, 322, 344, 364	Bedford	1926

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>DERMACENTOR</i>			
<i>rhinocerotis</i> (De Geer) (cont.)	---; 230, 320	Neave	1912
	---; 292	Jack	1942
<i>rhinocerotis</i> <i>arangi</i>	---; 163	Lewis	1934
<i>HAEMAPHYSALIS</i>			
<i>aciculifer</i> Warburton	---; 13, 44, 111, 113, 163, 214, 226, 320, 364	Hoogstraal	1956
	---; 54, 186. Accidentally introduced through cattle; 322	Theiler	1945
	July; 61	Morel & Mouchet	1958
	---; 89, 156, 324	Morel	1958
	---; 132	Theiler	1962
	---; 273, 319	Theiler & Robinson	1954
	---; 292	Jack	1942
<i>bequaerti</i> Hoogstraal	---; 13, 163, 320	Hoogstraal	1956
	---; 102	Theiler	1962
<i>bispinosa</i> Neumann	---; 54	Anastos	1950
	---; 163	Lewis	1931a.
	---; 364	Aders	1917
<i>calcarata</i> Neumann	---; 54	Lewis	1939
	---; 102	Stella	1940
	---; 163, 284	Hoogstraal	1954
<i>cinnabarina</i> Canestrini & Fanzago	Active from Jan.-Apr. and Aug.-Dec. with peak in Oct.- Nov.; 8	Sergeant & Poncet	1937
	Active from Jan.-Feb. and Oct.-Dec.; 8	Senevet & Rossi	1924
<i>cinnabarina</i> var. <i>punctata</i> Canestrini & Fanzago	---; 8, 96, 176	Senevet	1937
<i>cooleyi</i> Bedford	---; 322	Warburton	1933

TABLE 1 - LICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>HAEMAPHYSALIS</i>			
<i>erinacei</i>	---; 13	Hoogstraal	1954
<i>Pavesi</i>	---; 96	Hoogstraal & Kaiser	1958
	---; 316	Senevet	1937
<i>erinacei</i>	---; 96	Hoogstraal & Kaiser	1960
<i>erinacei</i>			
<i>Pavesi</i>			
<i>hoodi</i>	---; 54	Lewis	1939
<i>Warburton</i>	June and July-Dec.; 61. Forest; 113	Morel & Mouchet	1958
<i>Nuttall</i>	---; 89, 324	Morel	1958
	---; 112, 156	Lamontellerie	1960
	---; 117, 123, 163, 214, 230, 279	Bedford & Hewitt	1925
	---; 131	Theiler	1962
	---; 132	Tendairo	1947
	---; 186	Colas-Belcour & Milot	1948
	---; 273	Bedford	1926
	---; 320	Neave	1912
<i>hoodi</i>	---; 13, 61, 111, 113, 117, 123, 132, 163, 214, 230, 279, 320 322	Hoogstraal	1956
<i>hoodi</i>			
<i>Warburton</i>	Near swamps; 43	Zumpt	1958
<i>& Nuttall</i>			
<i>houyi</i>	---; 13	Hoogstraal	1954
<i>Nuttall &</i>	---; 61, 111, 113, 163, 320	Hoogstraal	1956
<i>Warburton</i>	Dec.; 71	Morel & Mouchet	1958
	---; 89, 156, 226, 273, 322, 324	Theiler	1962
	---; 112	Lamontellerie	1960
<i>leachi</i>	---; 8, 13, 14, 61, 26, 117, 123, 131, 176, 206, 230, 279, 307, 320	Senevet	1937
<i>Audouin</i>	Scarce; 39. ---; 214. Tall grasslands, "low veld"; 299. Evergreen deciduous and sclerophyllous bush, sub-tropical forest, temperate evergreen forest, thorn-bush, bush-covered hills, tall and short grasslands, low veld, middle veld, high veld, Karooveld, "sourveld".	Theiler & Robinson	1953

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>Audouini</i> Audouin (cont.)	"Western Province vegetation," coastal evergreen, "makbosveld," bankenveld; 322	Theiler & Robinson (cont.)	1953
	---; 44, 112, 227, 319	Theiler & Robinson	1954
	---; 44*	Wanson et al	1947
	Suspected vector of rickettsial organism causing East African tick-bite fever, naturally infected with <i>Rickettsia</i> ; 54	Dick & Lewis	1947
	---; 56	Sigwart	1915
	---; 61°	Rugeau	1953a.
	--- 100, 284	Stella	1940
	---; 102°, 322*	Charters	1946
	---; 132	Tendler	1947
	Experimental transmission of rickettsiae to man; 163	Heisch et al.	1957
	Naturally infected with <i>Rickettsia conorii</i> and <i>Rickettsia burnetii</i> ; 163	Heisch et al.	1962
	---; 175	Bequaert	1930
	---; 226	Johnston	1916
	---; 292	Jack	1928
	Experimental transmission of tick-bite fever; 322	Gear & de Meillon	1939
	---; 361	Pierquin & Niemegeers	1957
	May-July, Sept., Oct.; 364	Aeschlimann	1961
<i>leachi</i> <i>humerosoides</i> (Audouin)	--; 14	Dias	1950
<i>leachii</i> <i>leachii</i> Audouin	---; 13, 14, 44, 56, 96, 100, 102, 113, 117, 123, 132, 163, 214, 226, 227, 230, 279, 284, 285, 292, 307, 320, 322, 361. (Vector of bontonneuse fever <i>Rickettsia conorii</i> and Q fever <i>Coxiella burnetii</i> , experimental transmission with Rocky Mountain spotted fever <i>Rickettsia rickettsii</i> .)	Hoogstraal	1956
	Ubiquitous; 39, 43, 299, 322. (Naturally infected with tick-bite fever <i>Rickettsia conorii</i> , may infect man)	Zumpt	1958

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>Parasitus</i> <i>leptus</i> <i>leptus</i>	---; 54, 206	Dias	1950
Audouin (cont.)	Feb.-July, Oct.-Dec.; 61. (Thickets near water, forests)	Morel & Mouchet	1958
	---; 71	Morel & Maginel	1959
	---; 89, 131, 156, 273, 324	Morel	1958
	Mar., May, July, 112	Lamontellerie	1960
	---; 175, 201, 254 (Bites man)	Theiler	1962
	---; 176	Hoogstraal & Kaiser	1960
	---; 319	Morel & Finelle	1961
	May-July, Sept., Oct.; 364	Aeschlimann	1961
<i>leptus</i> <i>mussum</i> Dias	---; 13	Hoogstraal	1956
	---; 14, 39, 44, 56, 156, 163, 214, 226, 227, 230, 273, 279, 284, 292, 320, 322, 361	Theiler	1962
	---; 43	Zumpt	1958
	Sept.; 61	Morel & Mouchet	1958
	---; 71	Morel & Maginel	1959
	---; 319	Morel & Finelle	1961
	May-July; 364	Aeschlimann	1961
<i>leptus</i> Hoogstraal	---; 186	Hoogstraal & Theiler	1959
<i>leptus</i> Larousse	---; 316	Senevet	1937
<i>leptus</i> Neumann	---; 8	Senevet	1937
<i>leptus</i> Nuttall & Warburton	---; 214, 230, 320, 364	Theiler	1962
<i>leptus</i> Schulze	On birds; 96	Hoogstraal et al.	1963
	---; 176	Hoogstraal & Kaiser	1960

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>amblyomma</i> <i>capitatum</i> <i>capitatum</i> Rondelli	---; 96, 176	Hoogstraal & Kaiser	1958
<i>annulipes</i> Neumann	---; 13, 111, 113, 226, 254, 361	Hoogstraal	1956
	---; 44, 61, 123, 163, 279, 320	Theiler	1945
	---; 54	Lewis	1939
	Jan.-Apr., June-July, Oct.-Dec.; 51. ---; 214, 364. (Forests)	Morel & Mouchet	1958
	---; 89, 156	Morel	1958
	---; 206. (Bites man)	Theiler	1962
	---; 319	Theiler & Robinson	1954
	---; 322	Curson	1928
<i>annulipes</i> Pospelova- Shtrom	On birds; 96	Hoogstraal et al.	1963
<i>annulipes</i> Canestrini & Fanzago	Appears in Aug.-Apr. or May; 8	Sergent & Poncet	1937
	On birds; 96	Hoogstraal et al.	1963
	---; 176, 284	Franchini	1929
<i>annulipes</i> Robinson	---; 322	Theiler	1945
<i>annulipes</i> Neumann	---; 186	Poisson	1927
<i>annulipes</i> Koch	---; 186	Poisson	1927
<i>annulipes</i>	---; 54	Lewis	1939
<i>annulipes</i> Canestrini & Fanzago	---; 63	Anastos	1957
	Sept., on birds; 96	Hoogstraal et al.	1963
<i>annulipes</i> (Linnaeus)	Appears in Mar.-Oct. with peak in Apr.-June; 8	Sergent & Poncet	1937
	Near water; 8. (Bites man)	Foley	1929

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>Argas vespertilio</i> (Linnaeus) (cont.)	---; 13, 44, 96, 123, 163, 211, 214, 230, 273, 284, 316, 322, 344, 364	Senevet	1937
	---; 56°	Sigwart	1915
	---; 63. (Attacks man)	Howard	1908
	On birds, experimentally infected with Q fever <i>Rickettsia burnetii</i> ; 96	Hoogstraal et al.	1963
	---; 100	Franchini	1929
	---; 102	Roetti	1939
	---; 123	Senevet	1921
	---; 176	Stella	1938
	---; 211	Charrier	1925
	---; 226	Johnston	1916
	---; 227	Nezve	1912
	---; 284	Drake- Brockman	1913
	---; 285	Stella	1938
	---; 292	Lawrence	1935
	Experimental transmission of tick-bite fever with no immunity; 322	Pijner & Dau	1934
	---; 322°	Bedford	1920
	---; 364	Aders	1917
<i>Argas vespertilio</i> <i>argas</i> (L.)	Nov.-Sept.; 8	Senevet & Rossi	1924
	---; 56	Bedford	1936
	---; 292	Jack	1942
<i>Argas vespertilio</i> <i>argas</i> Schulze	---; 44, 163, 364	Bequaert	1930
<i>Argas vespertilio</i> <i>argas</i> Koch	---; 163	Lewis	1931a.
	---; 211	Lavier	1923
	---; 316	Colas-Belcour	1931
	---; 364	Evans	1935

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>HYALOMMA</i>			
<i>aegyptium</i>	Mar.- Sept.; 8	Senevet & Rossi	1924
<i>impressum</i> (Koch)	---; 102, 285	Stella	1938
	---; 163	Lewis	1931a.
	---; 273, 284, 316, 322, 344	Senevet	1937
	---; 292°	Jack	1928
	---; 364	Evans	1935
<i>aegyptium</i>	---; 273, 322. (Attacks man)	Howard	1908
var. <i>impressum</i> Neumann	Very common; 322°	Bedford	1920
<i>aegyptium</i> <i>impressum</i> <i>transiens</i> Schulze	---; 284	Franchini	1929a.
<i>aegyptium</i> <i>margaritoides</i> Senevet	---; 8	Senevet	1937
<i>albiparvum</i> Schulze & Scheottke	Naturally infected with <i>Rickettsia conorii</i> ; 163	Heisch et al.	1962
	---; 284, 361	Theiler	1962
	---; 307, 364	Hoogstraal	1956
<i>anatolicum</i> Koch	---; 13, 100, 102, 113, 284, 285	Theiler	1962
	---; 54, 163, 320, 364	Lewis	1939
	---; 176	Hoogstraal & Kaiser	1960
<i>anatolicum</i> <i>anatolicum</i> Koch	---; 13	Karrar et al.	1963
	---; 100, 102, 225, 284, 285	Theiler	1962
<i>anatolicum</i> <i>anatolicum</i> Koch	---; 13	Karrar et al.	1963
	---; 100, 163, 284, 285	Theiler	1962
	---; 176	Hoogstraal & Kaiser	1960
	---; 211	Blanc et al.	1962
<i>anatolicum</i> <i>anatolicum</i> Rondelli	---; 176	Kratz	1940

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>Hyalomma</i> <i>expulsi</i> Delpy	---; 13	Hoogstraal	1954
	---; 61	Rageau	1953a.
	---; 112, 156	Kousselot	1948
	---; 226	Unsworth	1952
<i>H. roussei</i> Schulze	---; 284	Franchini	1929b.
<i>H. truncatum</i> Schulze	---; 8, 13, 96, 176, 211, 316. (Natural reservoir of Q fever <i>Coxiella burnetii</i> in North Africa, capable of transovarial transmission of this fever)	Hoogstraal	1956
	---; 61	Rageau	1953a.
<i>H. truncatum</i> <i>mauritanicum</i> Senevet	---; 8	Kratz	1940
<i>H. immoderatum</i> Koch	---; 8, 96, 163, 176, 316	Senevet	1937
	Throughout the year; 13	Cloudsley-Thompson & Idris	1964
	---; 54, 320, 364	Lewis	1939
	---; 56, 322	Theiler	1962
	---; 63, 100, 102, 113, 216, 284, 285. (Host and vector of Q fever <i>Coxiella burnetii</i> . Experimentally infected with the virus of Russian encephalitis from Russian Maritime Province, and with virus of a Japanese mosquito-borne encephalitis)	Hoogstraal	1956
	---; 71, 112, 201, 225, 273, 324	Morel	1958
	Naturally infected with <i>Coxiella burnetii</i> ; 96	Taylor et al.	1952
	Naturally infected with Q fever; 211	Blanc & Bruneau	1949
<i>H. immoderatum</i> <i>mauritanicum</i> Schulze & Schlottke	---; 63	Hoogstraal	1956
<i>H. immoderatum</i> <i>H. immoderatum</i> Koch	---; 63	Kratz	1940
	---; 100	Rondelli	1932
	---; 176	Stelia	1938
	---; 284	Rondelli	1935

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>HYALOMMA</i>			
<i>dromedarii</i> <i>dromedarii</i> Koch (cont.)	---; 316	Delpy	1936
<i>erythraeum</i> Rondelli	---; 100, 284	Stella	1940
<i>excavatum</i> Koch	(Bites man)	Theiler	1962
	---; 8, 13, 63, 96, 100, 176, 211, 284, 285, 316. (Naturally infected with Q fever <i>Coxiella burnetii</i>)	Hoogstraal	1956
	Three host tick, hibernate during winter months in walls of buildings; 96	Daubney & Said	1951
	Naturally infected with <i>Coxiella burnetii</i> ; 96	Taylor et al.	1952
	---; 113, 201, 225, 253	Morel	1958
	Forest, naturally infected with <i>Rickettsia burnetii</i> ; 211	Blanc & Bruneau	1956
	Naturally infected with <i>Neo-rickettsia</i> ; 211	Giroud et al.	1957
<i>fezzanensis</i> Rondelli	---; 176	Kratz	1940
	---; 284	Sautet	1936.
<i>franchinii</i> Tonelli- Rondelli	---; 96, 316	Hoogstraal & Kaiser	1960
<i>glabrum</i> Delpy	---; 13, 322	Theiler	1962
<i>hippopotamense</i> Denny	---; 54, 322	Bedford	1926
<i>hippopotamen- sis</i>	---; 102, 284	Stella	1940
<i>impeltatum</i> Schulze & Schlottke	---; 8, 71, 89, 201, 225, 273, 316, 324	Morel	1958
	---; 13, 61, 96, 100, 113, 156, 163, 176, 211, 226, 284, 285, 364	Hoogstraal	1956
	May; 112	Lamontellerie	1960
	---; 253	Kratz	1940
<i>impressum</i> Koch	Savannahs; 13, 273. ---; 71, 89, 156, 225, 224	Morel	1958
	---; 61	Rageau	1953a.
	---; 96	Hoogstraal & Kaiser	1958

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>HYALOMMA</i>			
<i>impressum</i> Koch	---; 111, 113	Hoogstraal	1956
(cont.)	---; 112, 319	Theiler & Robinson	1954
	---; 123, 226	Theiler	1962
	---; 230	Wilson	1950
	---; 322°	Bedford	1926
<i>impressum</i> <i>albipar-</i> <i>atum</i> Schulze	---; 54	Lewis	1939
	---; 364	Kratz	1940
<i>impressum</i> <i>brunneipar-</i> <i>atum</i> Schulze & Schlottke	---; 307	Kratz	1940
<i>impressum</i> <i>impressum</i> Koch	---; 100, 102, 284, 285	Stella	1940
	---; 273	Kratz	1940
<i>impressum</i> <i>luteipes</i> Schulze & Schlottke	---; 13	Kratz	1940
<i>impressum</i> <i>nitida</i> Schulze	---; 61	Kratz	1940
	---; 102	Stella	1940
<i>impressum</i> <i>planum</i> form <i>rhinoscer-</i> <i>tis</i> Schulze & Schlottke	---; 364	Kratz	1940
<i>impressum</i> <i>rufipes</i> Koch	---; 100, 102, 284	Stella	1940
<i>impressum</i> <i>transiens</i> Schulze	---; 14	Dias	1950
	---; 54	Lewis	1939
	---; 96, 216, 364	Kratz	1940
	---; 100, 284	Stella	1940
	---; 214	Campana- Rouget	1959
	---; 230	Wilson	1946

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>HYALOMMA</i> <i>lewisi</i> Schulze	---; 54, 61, 96, 163, 364	Schulze	1936
<i>lusitanicum</i> (Koch)	Dec.-Sept.; 8	Senevet & Rossi	1924
	---; 176, 316	Senevet	1937
	Naturally infected with Q fever; 211	Blanc & Bruneau	1949
	---; 284	Franchini	1956
<i>lusitanicum</i> <i>algericum</i> Senevet	A few encountered all the year; 8, 316. (Accidentally attacks man)	Senevet	1937
<i>lusitanicum</i> <i>berberum</i> Senevet	Mar., Sept.; 8	Senevet & Rossi	1924
<i>lusitanicum</i> <i>cicatricasum</i> Schulze & Schlottke	---; 63	Kratz	1940
<i>lusitanicum</i> <i>depressum</i> Schulze	---; 316	Kratz	1940
<i>lusitanicum</i> <i>lusitanicum</i> Koch	---; 8	Kratz	1940
<i>marginatum</i> Koch	---; 8, 13, 96, 163, 176, 211, 226, 316. (Naturally infected with Q fever <i>Coxiella burnetii</i> , vector of this organism and transmits it through all stages)	Hoogstraal	1956
<i>marginatum</i> <i>annulipes</i> Schulze & Schlottke	---; 226	Schulze & Schlottke	1929
<i>marginatum</i> <i>balcanicum</i> Schulze	---; 100, 284	Stella	1940
	---; 176	Stella	1938
<i>marginatum</i> <i>marginatum</i> Pomerant- zev	---; 8, 211	Hoogstraal & Kaiser	1960
	---; 13	Karrar et al.	1963
	Sept., on birds; 96	Hoogstraal et al.	1963
<i>marginatum</i> <i>rufipes</i> Koch	---; 13°	Karrar et al.	1963

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>HYALOMMA</i>			
<i>marginatum</i>	---; 96. (Naturally infected with <i>Rickettsia conorii</i>	Hoogstraal	
<i>rufipes</i> Koch	and <i>Rickettsia burnetii</i> .)	et al.	1961
(cont.)	---; 176	Hoogstraal & Kaiser	1960
<i>marginatum</i>	Immature stages are common on birds from Asia, im-	Karrar et al.	1963
<i>turanicum</i>	ported species; 13		
Pomerantzev	---; 176	Hoogstraal & Kaiser	1960
<i>mauritanicum</i>	Appears suddenly in great number in June, last cap-	Sergeant & Poncet	1937
Senevet	ture in Oct., with peak in Aug.; 8		
	Naturally infected with Q-fever; 8	Blanc & Bruneau	1949
	Inside cracks on walls; 8	Sergeant et al.	1928
	---; 176, 322	Senevet	1937
<i>mauritanicum</i>	---; 8	Senevet	1937
<i>annulatum</i>			
Senevet			
<i>numidiana</i>	---; 322	Cooley	1934
Neumann			
<i>planum</i>	---; 54, 163	Lewis	1939
Koch			
<i>rhipicephaloides</i>	---; 96	Schulze	1936
Neumann			
<i>rufipes</i>	Throughout the year; 13	Claudsley-Thompson & Idris	1964
Koch			
	---; 14. (Bites man)	Theiler	1962
	---; 43. Naturally infected with tick-bite fever	Zumpt	1958
	<i>Rickettsia conorii</i> ; 322		
	---; 44	Pierquin & Niemegeers	1957
	---; 54	Lewis	1939
	---; 56, 96, 100, 111, 113, 163, 186, 214, 227, 230, 284, 285, 292, 299, 320, 364	Hoogstraal	1956
	---; 61	Morel & Mouchet	1958
	---; 71, 89, 131, 156, 201, 225, 226, 279, 307, 324	Morel	1958

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>HYALOMMA</i>			
<i>rufipes</i> Koch (cont.)	Naturally infected with <i>Rickettsia prowazeki</i> , experimentally infected with diverse unidentified rickettsias; 102	Reiss-Gutfreund	1956 (1957)
	May, Dec.; 112	Lamontellerie	1960
	---; 273	Theiler	1956
	---; 319	Theiler & Robinson	1954
<i>rufipes</i>	---; 13	Hoogstraal	1954
<i>rufipes</i> Koch	---; 226	Unsworth	1952
	---; 227	Theiler & Robinson	1954
<i>savignyi</i> Gervais	---; 13	Hoogstraal	1954
	Naturally infected with Q-fever; 211	Blanc et al.	1947
<i>savignyi</i> <i>impeltatum</i>	---; 54	Lewis	1939
<i>savignyi</i> <i>impressa</i>	---; 112	Girard & Rousselot	1945
<i>savignyi</i> <i>savignyi</i> Gervais	---; 96	Kratz	1940
	---; 112	Girard & Rousselot	1945
<i>schulzei</i> Olenev	---; 96	Hoogstraal	1956
<i>somaticum</i> Rondelli	---; 284	Stella	1940
<i>steineri</i> <i>codinai</i> Schulze & Gossel	---; 63	Kratz	1940
<i>syriacum</i> Koch	---; 8, 44, 96, 176, 273, 316, 322	Senevet	1937
<i>transiens</i> Schulze	---; 13	Hoogstraal	1954
	---; 14, 61, 227, 319, 361	Theiler & Robinson	1954
	---; 56	Fiedler	1953
	---; 96	Karrar et al.	1963

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>HYALOMMA</i>			
<i>transiens</i> Schulze (cont.)	Naturally infected with neo-rickettsia; 112 ---; 226	Giroud et al. Unsworth	1957 1952
<i>truncatum</i> Koch	---; 13, 14, 44, 56, 61, 63, 96, 100, 102, 111, 113, 117, 123, 132, 163, 186, 225, 227, 230, 275, 284, 285, 292, 299, 320, 322, 364. (Toxin or venom causes tick paralysis) ---; 43, 57, 322*. (Naturally infected with tick-bite fever, <i>Rickettsia sponzi</i> , in Southern Africa and also with Q-fever, <i>Coxiella burnetii</i>) Savannah, Apr., Aug., Oct.-Dec.; 61	Hoogstraal Zumpt Morel & Mouchet	1956 1958 1958
	---; 71, 89, 131, 156, 201, 225, 273, 307, 324	Morel	1958
	---; 112	Giroud et al.	1957
	---; 206, 273	Theiler	1956
	---; 214. (Bites man)	Theiler	1962
	---; 319	Morel & Finelle	1961
	---; 361	Pierquin & Niemegeers	1957
<i>tunesianum</i> Schulze & Schlottke	---; 316	Schulze & Schlottke	1929
<i>tunesianum</i> <i>franchinii</i> Rondelli	---; 176	Kratz	1940
<i>tunesianum</i> <i>gambrai</i> Rondelli	---; 100	Kratz	1940
<i>tunesianum</i> <i>tunesianum</i> Schulze & Schlottke	---; 316	Kratz	1940
<i>turanicum</i> Pomerantzev	---; 322	Hoogstraal	1956
<i>umbrosum</i> Schulze & Schlottke	---; 344	Kratz	1940
<i>levis</i>	---; 54	Lewis	1939

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>IXODES</i>			
<i>illuandii</i> Neumann	---; 13, 42, 44, 322	Arthur	1965
	---; 39	Theiler	1962
	---; 364	Nuttall	1916
<i>ampullaceus</i> Warburton	---; 320	Warburton	1933
<i>arabukiensis</i> Arthur	---; 163	Arthur	1965
<i>arabiensis</i> Artnur	---; 44, 361	Pierquin & Niemegeers	1957
<i>aulacodi</i> Arthur	---; 44	Arthur	1965
	---; 156	Theiler	1962
<i>auriculaelongae</i> Arthur	---; 44, 364	Arthur	1965
<i>auritulus</i> Neumann	---; 312	Theiler	1962
<i>bakeri</i> Arthur & Clifford	---; 230	Arthur	1965
<i>bedfordi</i> Arthur	---; 39	Theiler	1962
	---; 322	Arthur	1965
<i>browningi</i> Arthur	---; 44	Pierquin & Niemegeers	1957
<i>brunneus</i> Koch	---; 8, 230	Nuttall	1916
	---; 54	Lewis	1939
<i>cavipalpus</i> Nuttall & Warburton	---; 13, 163, 227, 230, 320. (Bites man)	Hoogstraal	1956
	---; 14. (Attacks man)	Nuttall et al.	1911
	---; 44	Pierquin & Niemegeers	1957
	---; 54	Lewis	1939
	---; 61, 214, 292, 322, 361, 364	Arthur	1965
<i>colas-bellocuri</i> Arthur	---; 186	Arthur	1957
<i>cumulatimpunctatus</i> Schulze	---; 44, 123, 156, 230, 254, 279, 292. Forest regions; 113. (Bites man)	Theiler	1962

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>Xenopsylla</i> <i>normalis</i> Schulze (cont.)	---; 163, 319, 320, 344, 364	Morel & Fincile	1961
<i>lapidif</i> Nuttall	---; 44, 322	Bequaert	1930a.
	---; 54	Lewis	1939
	---; 230	Arthur	1965
	---; 320	Bedford	1926
<i>lapidif</i> Arthur	---; 44	Pierquin & Niemegeers	1957
<i>lapidif</i> Arthur	---; 312	Theiler	1962
<i>lapidif</i> Neumann	---; 364	Theiler	1962
<i>longatus</i> Bedford	---; 292	Arthur	1965
	---; 322	Bedford	1929
<i>longatus</i> Arthur	---; 206	Arthur	1965
<i>longatus</i> Arthur	---; 44	Pierquin & Niemegeers	1957
<i>longatus</i> Rondelli	---; 176, 211, 315	Hoogstraal & Kaiser	1960
<i>longatus</i> (Panz.)	On birds: 96	Hoogstraal et al.	1963
<i>longatus</i> Arthur	---; 14	Arthur	1965
<i>longatus</i> Leach	---; 8. (Attacks man)	Nuttall et al.	1911
	---; 211	Blanc et al.	1962
<i>longatus</i> Arthur	---; 96	Hoogstraal & Kaiser	1958
<i>longatus</i> Arthur	---; 230	Arthur	1965
<i>longatus</i> Arthur	---; 185	Hoogstraal & Theiler	1959
<i>longatus</i> Arthur	---; 163	Arthur	1965

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES: DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>lanceolatus</i> Arthur	---; 230	Arthur	1965
<i>lanceolatus</i> Neumann	---; 186	Nuttall et al.	1911
<i>lanceolatus</i> Arthur	---; 292	Arthur	1965
<i>lanceolatus</i> Arthur	---; 113, 156	Arthur	1965
<i>lanceolatus</i> Arthur & Burrow	---; 44, 61, 116, 226, 254, 364	Arthur	1965
<i>lanceolatus</i> Nuttall	---; 13, 14, 292, 320	Hoogstraal	1956
	---; 44, 230, 372, 364	Arthur	1965
	---; 54	Lewis	1939
	---; 163	Nuttall	1916
<i>lanceolatus</i> Arthur	---; 44	Arthur	1965
	---; 230	Theiler	1962
<i>lanceolatus</i> Arthur & Burrow	---; 44	Pierquin & Niemegeers	1957
<i>lanceolatus</i> Nuttall	---; 44, 61, 161, 307, 322, 361, 364	Arthur	1965
	---; 156	Theiler	1962
	---; 279, 292	Nuttall	1916
<i>lanceolatus</i> major Arthur	---; 320	Theiler	1962
<i>lanceolatus</i> Leach	From migrant birds from Euro-Asia; 96	Arthur	1965
<i>lanceolatus</i> Neumann	---; 312	Arthur	1965
<i>lanceolatus</i> Koch	---; 43	Zumpt	1958
	---; 54, 227, 364	Nuttall	1916
	---; 61	Rageau	1953
	---; 163	Lewis	1939a
	---; 214	Arthur	1965

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>IXODES</i>			
<i>pilosus</i> Koch (cont.)	---; 230	Wilson	1946
	---; 292, 320°	Bedford	1926
	---; 299. Forests, parklands, grasslands; 322	Theiler	1950b.
<i>pilosus</i> var. <i>howardi</i> Neumann	---; 322	Bedford	1920
<i>procapitis</i> Arthur & Burrow	---; 44, 163, 361	Arthur	1965
<i>pseudoscutus</i> Arthur	---; 44, 106, 123, 156, 163, 230, 273, 292, 319, 320	Arthur	1965
<i>pterosinensis</i> Arthur	---; 247	Arthur	1965
<i>rageai</i> Arthur	---; 61	Arthur	1965
	---; 319	Morel & Finelle	1961
<i>rusus</i> Neumann	---; 13, 106, 111, 113	Hoogstraal	1956
	---; 44, 123, 206, 307, 364	Bequaert	1930
	---; 54, 102, 163, 254, 292	Nuttall	1916
	---; 61°	Rageau	1953a.
	---; 156	Hoogstraal & Theiler	1959
	---; 226, 320°. (Attacks man)	Nuttall et al.	1911
	---; 227	Theiler	1962
	---; 230	Arthur	1965
	---; 319, 361	Theiler & Robinson	1954
	---; 322	Bedford	1929
<i>recluse</i> A. H. Kornet Olenov	---; 96	Arthur	1965
<i>recluse</i> Arthur	---; 226	Arthur	1965
<i>recluse</i> (Linnaeus)	Active from Sept.-Apr. with peak in Feb.; 8	Sergent & Poncet	1937

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>IXODES</i>			
<i>ricinus</i> (Linnaeus) (cont.)	On birds, forest, pasture, Sept.; 96	Hoogstraal et al.	1963
	---; 100	Franchini	1929
	---; 176	Zanon	1923
	---; 316. (Bites cause phlegmonous inflammation, violent but localized pain, headache, stiffness, and cramps of muscles, partial loss of memory, polyuria, dilated pupils, abscess, sedema, lymphagitis, pene- trates tissues.)	Nuttall et al.	1911
<i>rotundatus</i> Arthur	---; 44, 163, 320	Arthur	1965
<i>rubicundus</i> Neumann	---; 39	Henderson	1938
	---; 54	Lewis	1939
	---; 163	Lewis	1931a.
	---; 227	Nuttall	1916
	---; 322	Theiler	1950b.
	---; 322*	Stampa	1959
<i>rubicundus</i> var. <i>limbatus</i> Neumann	---; 44*	Schwetz	1927
<i>schillingsi</i> Neumann	---; 13, 163, 214, 364. (Attacks man)	Hoogstraal	1956
	---; 54	Lewis	1939
	---; 61*	Rageau	1953a.
	---; 163*	Lumsden	1955
<i>simplex</i> Neumann	---; 13	Hoogstraal	1954
	---; 44, 115, 322	Schulze	1936a.
<i>simplex</i> <i>africanus</i> Arthur	---; 163	Arthur	1965
<i>simplex</i> <i>simplex</i> Neumann	---; 13, 163, 322	Hoogstraal	1956
	---, 44	Arthur	1965
	---; 115	Theiler	1962
<i>spinae</i> Arthur	---; 44, 322	Arthur	1965

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>IXODES</i>			
<i>tenuirostris</i> Neumann	---; 230	Neave	1912
<i>theileri</i> Arthur	---; 56, 322	Arthur	1953
<i>thomasi</i> Arthur & Burrow	---; 163, 364	Arthur	1965
<i>agrippinus</i> Neumann	---; 44	Bequaert	1930a.
	---; 54	Lewis	1939
	---; 57, 320	Bedford	1926
	---; 61	Rageau	1953a.
	---; 163, 214, 292, 322	Arthur	1965
	---; 226, 364	Nuttall et al.	1911
	---; 319	Theiler & Robinson	1954
<i>agrippinus</i> <i>ajacensis</i> Neumann	---; 54	Lewis	1939
	---; 102, 364	Nuttall et al.	1911
<i>urea</i> White	---; 247, 312, 322	Arthur	1965
<i>venosus</i> Schulze	---; 44, 61, 320, 364	Arthur	1965
<i>despertationis</i> Koch	---; b. (Occasionally attacks man)	Nuttall et al.	1911
	---; 13, 163, 211, 322	Hoogstraal	1956
<i>swapti</i> Arthur	---; 312	Arthur	1965
<i>MARGAROPUS</i>			
<i>annulatus</i> Say	---; 44	Roubaud & Van Saceghem	1916
	---; 96	Mason	1916
	---; 102	Roetti	1939
	---; 186	Rück	1935

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>MARGAROPUS</i>			
<i>annulatus</i>	---; 44	Van Saceghem	1918
<i>annulatus</i> Say			
<i>annulatus</i>	---; 322	Howard	1908
var. <i>australis</i> (Fuller)			
<i>annulatus</i>	---; 211	Lavier	1923
var. <i>calcaratus</i> (Birula)			
<i>annulatus</i>	---; 44, 56, 65, 186, 214, 320, 322, 344, 364	Howard	1908
var. <i>decoloratus</i> Koch	---; 100, 102, 284	Stella	1938
<i>calcaratus</i> (Birula)	Present in June-Mar. with maximum in Sept. and Oct.; 8	Sergeant & Poncet	1937
	---; 211	Brumpt	1931
	Nov.-Dec.; 316	Brumpt	1920
	---; 322	Brumpt	1937
<i>decoloratus</i> (Koch)	---; 44	Schwetz	1927
	---; 102	Roetti	1939
	Oct.; 186	Bück	1935
	---; 322	Brain	1929
<i>townsendi</i> Neumann	---; 39, 322	Howard	1908
<i>reidi</i> Hoogstraal	---; 13	Hoogstraal	1956
<i>winthemi</i> Karsch	---; 39, 322. (A South American tick which was prob- ably imported during the Boer War with mules and horses from Argentina)	Bedford	1920
	---; 43, 56	Theiler	1952
	---; 54, 163	Lewis	1939
	---; 212. (Imported on cattle from Union of South Africa)	Jack	1942
	May-Aug., Oct.-Dec.; 322	Theiler & Salisbury	1958
<i>NOTTALLIELLA</i>			
<i>hamaxii</i> Bedford	---; 56	Theiler	1962
	---; 322	Bedford	1934

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>ORNITHODOROS</i>			
<i>apertus</i> Walton	---; 163	Walton	1962
<i>arenicolus</i> Hoogstraal	Littoral areas of western and eastern deserts; 96 ---; 316	Leeson Hoogstraal & Kaiser	1956 1960
<i>capensis</i> Neumann	---; 230, 312. (Bites man)	Theiler	1962
<i>compactus</i> Walton	---; 322	Walton	1962
<i>coniceps</i> Can.	---; 211 Bites man at larval stage, in houses, experimental infection and transmission of West Nile virus; 316. (Naturally infected with spirochetes of relapsing fever)	Leeson Vermeil et al.	1956 1959
<i>delanoei</i> Roubaud & Colas- Belcour	---; 96 Holes in ground; 211	Leeson Roubaud & Colas-Belcour	1956 1931
<i>delanoei</i> <i>actinus</i> Whittick	---; 284	Whittick	1938
<i>delanoei</i> <i>delanoei</i> Roubaud & Colas- Belcour	Aug.; 96 ---; 211	Davis & Mavros Colas-Belcour & Rageau	1955 (1956) 1962
<i>eboris</i> Theiler	---; 322	Theiler	1959
<i>erraticus</i> Lucas	---; 8* ---; 71 Animal holes among stones in dry sand, naturally infected with spirochetes; 96 ---; 96. (Transmit <i>Spirochaeta hispaniow</i> relapsing fever, and <i>Spirochaeta crocidurae</i> , experimentally transmitted <i>Spirochaeta duttoni</i> , <i>Spirochaeta sogdiana</i> , and <i>Spirochaeta normandi</i>) ---; 112 ---; 123, 201, 225	Foley & Parrot Morel & Magimel Davis & Hoogstraal Senevet Sautet et al. Theiler	1933 1959 1956 1937 1944 1962

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>ORNITHODOROS</i>			
<i>erraticus</i> Lucas (cont.)	From pygmy-gerbil burrows, naturally infected and experimentally transmitted <i>Spirochaeta dipodilla</i> to man; 163*	Heisch	1954
	Experimentally infected with Q fever; 211	Blanc et al.	1947
	Aug., Sept., grotto, ground holes; 211. Naturally infected with <i>Borrelia hispanica</i> ; 316	Chabaud	1954
	Naturally infected with <i>Borrelia hispanica</i> and <i>Rickettsia burneti</i> ; 211	Blanc & Bruneau	1956
	---; 211*, 316*	Nicolle et al.	1929
	Experimentally infected with <i>Spirochaeta duttoni</i> ; 273	Durieux	1932
	Experimental transmission of relapsing fever to man; 273*	Mathis et al.	1933
	---; 273°	Bolron	1949
	In houses, experimentally infected with West Nile virus; 316	Vermeil et al.	1959
	---; 316. (Vector of Hispano-African and Dakar relapsing fever)	Colas-Belcour	1935
	---; 320. (Vector of <i>Borrelia hispanica</i> , <i>B. crocidurae</i> , <i>B. merionesi</i> , and <i>B. dipodilli</i>)	El-Ziady	1958
<i>erraticus</i> <i>erraticus</i> (Lucas)	---; 211	Colas-Belcour & Rageau	1962
<i>erraticus</i> var. <i>maroccanus</i> Velu	Experimental transmission of relapsing fever; 273*	Durieux	1932
<i>erraticus</i> var. <i>sonrai</i> Sautet & Witkowski	---; 96, 163, 211, 273. Experimentally infected with <i>Borrelia crocidurae</i> and <i>B. merionesi</i> ; 112	Colas-Belcour & Vervent	1955 (1956)
	---; 225	Colas-Belcour & Rageau	1962
<i>faini</i> Hoogstraal	---; 44	Theiler	1962
<i>foleyi</i> Parrot	---; 8*, 176**, 322	Hoogstraal & Kaiser	1960
	---; 8°	Parrot	1928
	---; 96	Leeson	1956
	Suspected vector of relapsing fever organism; 176	Colas-Belcour & Vervent	1949

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>ORNITHODOROS</i>			
<i>foleyi</i> Parrot (cont.)	---; 176. (Attacks man)	Senevet	1937
	---; 225	Theiler	1962
<i>franchinii</i> Rondelli	Causes tick-bite fever; 176	Warburton	1933
	May-July; 176. (Suspected vector of relapsing fever spirochetes)	Franchini	1933
	In grottos; 176°	Roubaud & Colas- Belcour	1931
	Oasis; 176	Langeron	1931
<i>graingeri</i> Heisch & Guggisberg	Naturally infected with and experimental transmission of spirochetes, in caves; 163	Heisch	1953
<i>lahorensis</i> Neumann	---; 8, 13, 96	Geigy & Herbig	1955
	---; 176°. (Suspected vector of relapsing fever)	Franchini	1933
<i>maroccanus</i> Vélu	---; 8	Sergent & Parrot	1929
	---; 211. (Experimentally infected with relapsing fever organism)	Nicolle & Anderson	1927a.
	---; 211*°	Remlinger & Bailly	1929
	---; 316	Colas-Belcour	1930
<i>magnini</i> Dugès	---; 13, 43, 322. (Found embedded in the external ear of man, causes pain in the ear)	Bishopp & Tremblay	1945
	---; 44	Pierquin & Niemegeers	1957
	---; 54, 163	Lewis	1939
	---; 292°, 322. (No doubt introduced to South Africa from America)	Jack	1928
	---; 322°. (Kept alive for two years without food)	Bedford	1920
<i>orbillosus</i>	---; 54	Lewis	1939
<i>rubata</i> (Murray)	(Transmits varieties of relapsing fever)	Kirk	1939
	(In Africa, transmits <i>B. duttoni</i>)	Nicolle & Anderson	1927a.
	(Infests houses)	Nuttall et al.	1911

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>ORNITHODOROS</i> <i>moubata</i> (Murray) (cont.)	---; 8, 96, 316. Experimental transmission of relapsing fever; 102	Bruns	1937
	In houses; 13	Hoogstraal	1954
	---; 13°. (Carrier of <i>Spirochaeta recurrentis</i>)	King	1926
	---; 14*, 44*, 322°. (Transmits <i>Borrelia duttoni</i> to man, but the disease is not known to occur in the Union of South Africa.)	Bedford	1920
	---; 39, 299	Theiler	1962
	Enters houses; 42, 44, 186, 322. (Carrier of <i>B. duttoni</i> which is transmitted within the egg, believed to have carried westward and southward from East Africa by man)	Requaert	1930
	Naturally infected with relapsing fever agent <i>Borrelia duttoni</i> , in native huts; 43*. Naturally infected with <i>Rickettsia burneti</i> (Q fever); 361	Zumpt	1958
	---; 44, 206, 364. (Preferred man as host and found in places frequented by man. Thrives in dry regions e.g. wooded savannahs)	Rodhain	1919
	Naturally infected with <i>B. duttoni</i> ; 44	Schwetz	1933
	In houses and in an office building; 44	Schwetz	1927
	Naturally infected with <i>Salmonella enteritidis</i> ; 44.	Floyd & Hoogstraal	1956
	Naturally infected with "Bashi virus-rickettsia"; 44. ---; 102, 111, 123, 186, 279, 284, 360. In human habitations; 284, 320, 322. Naturally infected with <i>Coxiella burnetii</i> , the causative organism of Q-fever; 363. (Vector of African tick-borne relapsing fever <i>B. duttoni</i> of East, Central and South Africa. <i>Salmonella enteritidis</i> was also recovered from this tick. Classical typhus <i>Rickettsia prowazeki</i> and murine typhus <i>R. typhi</i> developed in this tick. <i>R. prowazeki</i> can be transmitted transovarially and <i>R. typhi</i> can be found in eggs and coxal fluid of infected ticks. <i>Bacillus tularensis</i> is experimentally transmitted by the bite and is also transovarially transmitted to the progeny. It is capable of harboring and transmitting other <i>Borrelia</i> species besides <i>B. duttoni</i> . Weil's disease <i>Leptospira icterohemorrhagiae</i> survives for about forty days in living <i>O. moubata</i> , remains virulent in the body long after the ticks death, and can be transmitted when infected ticks bite. Filariiae may develop in the body cavity of <i>O. moubata</i> , but transmission appears to be unlikely. Virulent trypanosomes may remain in the tick's gut for as long as five years, but transmission is apparently impossible and transovarial infection does not occur. <i>Toxoplasma gondii</i> appears not to be transmitted by this tick	Hoogstraal	1956

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>ORNITHODOROS</i> <i>nowbata</i> (Murray) (cont.)	although it survives for almost two weeks in this tick.)	Hoogstraal (cont.)	1956
	---; 54*	Selwyn- Clarke et al.	1923
	---; 56	Walton	1962
	---; 100, 284*, 285	Stella	1938
	Found in large burrows, experimentally infected with <i>Spirochaeta dipodilli</i> ; 163	Heisch	1954
	Experimentally infected with <i>S. duttoni</i> ; 163, 322	Davis & Burgdorfer	1954
	In huts; 163	Walton	1957
	---; 163*	Lewis	1931
	---; 163*	Anderson	1924
	---; 176	Hoogstraal & Kaiser	1960
	---; 186*	Bück	1935
	---; 186*	Geigy & Herbig	1955
	---; 186*	Sudley	1916
	In houses, suspected vector of spirochetosis; 206	Leboeuf & Gambier	1918
	Naturally infected with <i>Borrelia hispanica</i> ; 211. (Vector of <i>Borrelia hispanica</i>)	Blanc & Bruneau	1954
	In corners, cracks and hiding places in floors; 214	Marquez	1944
	---; 227. (Human parasite, frequents huts)	Heisch & Grainger	1950
	Naturally and experimentally infected with and experimentally transmitted with <i>S. duttoni</i> ; 230, 320	Leishman	1918
	Enters dwellings; 230*	Wilson	1943
	Experimental transmission of recurrent fever; 273. (Natural agent of <i>S. duttoni</i>)	Nicolle & Anderson	1927
	In houses; 284*	Lovett	1956
	Enters dwellings; 292**	Jack	1928
	On wart hogs; 320	Chorley	1943

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>ORNITHODOROS</i>			
<i>moubata</i> (Muray) (cont.)	Deposited in sand or in hollows made by the tick; 322	Ordman	1939
	---; 322*	Poisson	1927
	---; 344, 364	Bedford	1926
	In native huts, on plains or in mountains, prefers clay huts; 361	Geerts et al.	1958
	Naturally and experimentally infected with <i>B. duttoni</i> , in dwellings and in the bush; 364*	Geigy et al.	1956
	In undergrowth in savannah; 364	Aeschlimann	1961
	In native huts and rest houses; 364	Morstatt	1914
<i>normandi</i> Larrousse	---; 8	Chalon	1923
	---; 316*	Nicolle et al.	1927
	---; 316°	Larrousse	1923
<i>pavimentosus</i> Neumann	(Infests dwellings)	Nuttall et al.	1911
	Very rare; 56°	Bedford	1924
	---; 322°	Bedford	1920
<i>perengueyi</i> Bedford & Hewitt	---; 322	Bedford & Hewitt	1925
<i>porcinus</i> Walton	---; 186	Uilenberg	1963
<i>porcinus</i> <i>domesticus</i> Walton	---; 14, 230. In houses; 165, 214, 364. (Primarily a human parasite of moist conditions)	Walton	1962
<i>porcinus</i> <i>porcinus</i> Walton	---; 13, 43, 44, 163, 214, 279, 320, 322, 364	Walton	1962
<i>salahi</i> Hoogstraal	May; 96	Hoogstraal	1953
<i>savignyi</i> Audouin	---; 8°	Chalon	1923
	Wells shaded by trees; 13, 111, 284. ---; 14. Deep sandy soil beneath large trees, always in shade; 43, 56	Theiler	1962
	---; 13°, 56, 113, 176, 226, 230, 284. (Bite is painful, experimental infection with <i>Trypanosoma cruzi</i> . Experimental transmission of <i>T. evansi</i>)	Hoogstraal	1956

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>ORNITHODOROS</i> <i>savignyi</i> Audouin (cont.)	---; 42, 96, 226, 316, 322, 344. ---; suspected vector of relapsing fever; 284. (Attacks man, transmits certain relapsing fever organisms as well as <i>Borrelia duttoni</i> which causes tick fever)	Senevet	1937
	---; 43°	Zumpt	1958
	---; 44	Theiler & Robinson	1954
	---; 54	Lewis	1939
	---; 71, 225	Morel & Mouchet	1958
	Parenterally infected and transmission of Western Nile virus; 96	Hurlbut	1956
	Experimentally infected by parenteral puncture and transmission of Sindbis fever; 96	Taylor et al.	1955
	---; 100, 284, 285	Stella	1938
	---; 102*	Bruns	1937
	---; 102, 284. (Experimentally infected with relapsing fever, under trees where livestock collects for shade, relapsing fever occurs almost exclusively among wandering immigrants)	Kirk	1938
	---; 112, 284. (Experimentally transmits <i>B. duttoni</i> , <i>B. hispanica</i> , and <i>B. normandi</i>)	Brumpt	1936
	---; 163°	Anderson	1924
	Experimentally transmits <i>B. duttoni</i> ; 163	Heisch & Harvey	1960
	---; 163*	Lewis	1931
	---; 201	Morel	1958
	---; 214	Bedford	1926a.
	In dust near edge of wells; 284	Rodhain	1919
	Suspected vector of relapsing fever; 284	Lovett	1956
	---; 320, 344	Bequaert	1930
	---; 322°	Bedford	1920
<i>savignyi</i> var. <i>caecus</i> (Neumann)	---; 14, 44, 56, 96, 102, 322, 364. Probable vector of human tick-fever; 214, 322. (Found in sand in desert-like places, enters huts, attacks man)	Howard	1908

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>ORNITHODOROS</i>			
<i>savignyi</i>	Hides in sand; 56°	Howard	1908
var. <i>pavimentosus</i> Neumann			
<i>talaje</i>	---; 8	Chalon	1923
Guerin- Meneville	---; 123	Buchanan	1925
	---; 211	Larrousse	1923
<i>talaje</i>	---; 64, 186, 312, 361	Schulze	1937
<i>capensis</i> Neumann	---; 259	Nuttall et al.	1911
	---; 322°	Bedford	1920
<i>talaje</i>	---; 211, 316. (Bites man and causes local lesion and a feverish infection)	Senevet	1937
var. <i>coniceps</i> (Canes- trini)			
<i>tholozani</i> (Laboulbène & Mégnin)	Animal holes among stones in dry sand, experimentally infected with spirochetes of recurring fever; 96°. Animal holes among stones in dry sand, naturally infected with spirochetes; 176	Davis & Hoogstraal	1956
<i>tholozani</i> <i>tholozani</i> Laboulbène & Mégnin	---; 96	Hoogstraal & Kaiser	1958
<i>zimpti</i> Heisch & Guggisberg	---; 322	Leeson	1956
<i>OTOBIVUS</i>			
<i>regnini</i> Duges	Throughout the year; 39, 56, 322	Theiler & Salisbury	1958a.
	---; 43, 44, 214, 230, 297. (Bites man)	Theiler	1962
	---; 186	Raynaud & Rascona	1962
<i>PALPOBOOPHILUS</i>			
<i>decoloratus</i> Koch	---; 14	Mendes	1959
	---; 132	Tendeiro	1946
	---; 186°. (Suspected vector of human tick fever)	Colas-Belcour & Millot	1948
<i>PTERYLODES</i>			
<i>fulvus</i> Neumann	---; 71	Morel & Graber	1961

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PHIPICENTOR</i>			
<i>bicornis</i>	---; 14, 322	Theiler	1962
Nuttall & Warburton	---; 44, 361	Pierquin & Niemegeers	1957
	---; 56	Sigwart	1915
	---; 227	Theiler & Robinson	1954
	---; 230	Neave	1912
	---; 292	Jack	1942
<i>gladiger</i>	---; 44	Bequaert	1931
Neumann			
<i>nuttalli</i>	---; 43, 56, 322	Theiler	1962
Cooper & Robinson	---; 292	Jack	1942
<i>vicinus</i>	---; 322	Bedford	1926
Neumann			
<i>PHIPICPHALUS</i>			
<i>annulatus</i>	---; 176	Franchini	1929b.
Say			
<i>annulatus</i>	---; 186, 273	Colas-Belcour & Millot	1948
var. <i>caudatus</i>			
Neumann			
<i>appendiculatus</i>	(Bites man)	Theiler	1962
Neumann	---; 13, 100, 163, 214, 227, 361, 364. (Experimental transmission with the virus of Rift Valley fever.)	Hoogstraal	1956
	---; 14	Morel & Mouchet	1958
	In savannahs and swamps, naturally infected with tick-bite fever, <i>Rickettsia conorii</i> ; 43	Zumpt	1958
	---; 44, 56	Bequaert	1930
	---; 54	Dick & Lewis	1947
	---; 61	Rageau	1953a.
	---; 71	Morel & Graber	1961
	---; 102, 284	Stellia	1938
	Active at all times with peak from Apr.-Aug.; 163	Lewis	1939
	---; 206, 319. (In savannah country)	Theiler & Robinson	1954

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>RHIPICEPHALUS</i>			
<i>appendiculatus</i> Neumann (cont.)	Evergreen, deciduous bush and sub-tropical forest; 214, 216. Temperate evergreen forest, evergreen sclerophyllous bush, desert shrub, tall and short grass; evergreen and deciduous bush and sub-tropical forest; 299, 322.	Theiler	1949a.
	Adults thrive best in hot, wet season; 230	Wilson	1946
	---; 230*	Wilson	1943
	---; 284	Franchini	1929b.
	---; 292	Jack	1928
	---; 320, 344	Zumpt	1942a.
	Experimental transmission of tick-bite fever, common in "veld" on grasses; 322*	Pijper & Dau	1934
	---; 322*	Charters	1940
	July-Aug.; 364	Aeschlimann	1961
	---; 364*	Aders	1917
<i>armatus</i> Pocock	---; 54, 284	Theiler	1947
	---; 102, 320. (Bites man)	Theiler	1962
	---; 163	Lewis	1931a.
	---; 364	Morstatt	1913
<i>arnoldi</i> Theiler & Zumpt	---; 13, 321	Hoogstraal	1956
<i>aurentiacus</i> Neumann	---; 13, 61, 163, 284	Morel & Finelle	1961
	---; 44, 175, 206	Theiler	1947
	---; 364. (Attacks man)	Zumpt	1943
<i>ayrei</i> Lewis	---; 44, 163, 214, 227, 230, 320, 36', 364	Theiler & Robinson	1954
	---; 54	Lewis	1939
	---; 226	Unsworth	1952
<i>beguaerti</i> Zumpt	---; 13, 361	Hoogstraal	1956
	---; 163	Theiler	1962
<i>boueti</i> Morel	---; 89	Morel	1957 (1958)

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>RHIPICEPHALUS</i>			
<i>barsa</i> Canestrini & Fanzago	Appears in May and disappears in Sept.; 8. ---; 44, 115, 131, 176, 206, 211, 284, 364	Senevet	1937
	Appears in Mar.-Nov. with peak from May-Aug.; 8	Sergent & Poncet	1937
	Active from Mar.-Aug.; 8	Senevet & Rossi	1924
	---; 13	Geigy & Herbig	1955
	---; 54	Lewis	1939
	---; 100, 102, 284	Stella	1940
	---; 163	Roetti	1939
	---; 214	Bedford	1926
	---; 230	Neave	1912
	---; 316. (May-Sept.)	Brumpt	1920
	---; 320	Mettam & Carmichael	1936
	---; 322	Bedford	1920
<i>camelopendialis</i> Walker & Wiley	---; 163, 364	Theiler	1962
<i>expensis</i> Koch	---; 14, 43, 56, 299. Desert grass, shrub, evergreen deciduous bush and sub-tropical forest, temperate evergreen forest, evergreen sclerophyllous bush, tall grass; 322	Theiler	1950
	---; 44	Bequaert	1931
	---; 54	Lewis	1939
	---; 115, 206, 319, 361	Theiler & Robinson	1954
	---; 163	Lewis	1931a.
	---; 214	Theiler	1962
	---; 227, 320	Neave	1912
	Adults suddenly appear in late Aug. or early Sept.; 230	Wilson	1946
	---; 292	Jack	1928
	---; 364	Morstatt	1914

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>Rhipicephalus</i> <i>capensis</i> <i>capensis</i> Koch	---; 13, 56, 214, 344, 364	Zumpt	1942b.
<i>capensis</i> var. <i>compositus</i> Neumann	---; 13, 44, 364	Bequaert	1931
<i>capensis</i> <i>longus</i> Neumann	---; 14, 44, 163, 175, 307	Zumpt	1942b.
	---; 61	Rageau	1953a.
	Not common; 226	Unsworth	1952
	---; 344	Morel	1958
<i>complanatus</i> Neumann	---; 14, 115, 156, 175, 226. (Bites man)	Theiler	1962
	---; 44	Bequaert	1930
	Forest, Jan.-Mar., Sept.; 61	Morel & Mouchet	1958
	---; 206	Theiler	1947
<i>compositus</i> Neumann	---; 13, 44, 61, 163, 214, 226, 227, 230, 320, 361, 364. (Attacks man)	Hoogstraal	1956
	---; 14, 292	Theiler	1962
	Jan., May-Sept.; 364	Aeschlimann	1961
<i>confusus</i> Dias	---; 214	Theiler	1962
<i>coriaceus</i> Nuttall & Warburton	---; 230	Neave	1912
<i>locatus</i> Neumann	---; 175	Bequaert	1930
<i>maculatus</i> Neumann	---; 13, 56. Naturally infected with Q fever <i>Coxi- ella burnetii</i> ; 132	Hoogstraal	1956
	---; 44, 201, 225, 226, 324	Theiler	1962
	Apr.; 61	Morel & Mouchet	1958
	---; 71	Morel & Magimel	1959
	---; 102, 284	Stella	1940
	Nov.; 112	Lamonteillerie	1960

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>RHIPICEPHALUS</i>			
<i>cuspidatus</i> Neumann (cont.)	---; 273 --; 319	Theiler Morel & Finelle	1947 1961
<i>deltoides</i> Neumann	---; 39, 44, 320	Theiler	1947
<i>distinctus</i> Bedford	---; 13, 14, 214, 292, 320 ---; 43 ---; 56, 322, 364	Theiler Zumpt Theiler	1962 1958 1947
<i>guttosus</i> Neumann	Plateaus, littoral and desert regions; 14 ---; 44, 214, 322 ---; 187	Theiler Theiler Zumpt	1962 1947 1942a.
<i>lur</i> Lönitz	---; 14 ---; 44, 361 ---; 54 ---; 320	Theiler Theiler & Robinson Lewis Neave	1962 1954 1939 1912
<i>ecinetus</i> Neumann	---; 350	Franchini	1929b.
<i>evertsi</i> Neumann	---; 13 ---; 14 Bush veld; 43. ---; 299. Forests, parklands, grass- lands; 32? ---; 44, 112, 227, 319, 361 ---; 54 ---; 56, 322, 364 Apr. -May; 61 ---; 71 ---; 100, 102, 284 ---; 115, 123, 225, 230, 273, 285, 307, 324 Naturally infected with <i>Rickettsia conorii</i> ; 163	King Dias Theiler Theiler & Robinson Lewis Bedford Morel & Mouchet Morel & Magimel Stella Theiler Heisch et al.	1926 1950 1950a. 1954 1939 1926 1958 1959 1940 1962 1962

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>RHIPICEPHALUS</i>			
<i>evertsi</i>	---; 214	Zumpt	1942b.
Neumann (cont.)	---; 226	Unsworth	1952
	---; 292	Jack	1928
	---; 320	Mettam & Carmichael	1936
	---, 322*	Bedford	1920
<i>evertsi</i>	---; 44	Van Saceghem	1918
var. <i>albigenicu-</i> <i>latus</i>	---; 56	Bedford & Hewitt	1925
Warburton			
<i>evertsi</i>	---; 13, 56, 61, 63, 100, 102, 111, 113, 123, 163,	Hoogstraal	1956
<i>evertsi</i>	214, 226, 227, 230, 284, 285, 292, 320, 322, 361, 364.		
Neumann	On cattle imported from Sudan, Somali or Ethiopia, but not established in the new localities; 96, 186. (Associated with boutonneuse fever <i>Rickettsia conorii</i>)		
	---; 14, 43, 44. (Naturally infected with tick-bite fever <i>Rickettsia conorii</i>)	Zumpt	1958
	---; 112, 225, 273, 307, 324	Morel	1958
<i>evertsi</i>	---; 14	Theiler & Robinson	1954
<i>mimeticus</i>			
Dönitz	---; 43	Theiler	1962
	---; 44, 56	Bequaert	1931
	---; 214, 292, 322	Dias	1950
<i>excinctus</i>	---; 284	Franchini	1929a.
<i>falcatus</i>	---; 13	King	1926
Neumann	---; 14	Theiler & Robinson	1954
	---; 44, 163, 175, 214, 320, 322, 364	Theiler	1947
	---; 54	Lewis	1939
	---; 123	Simpson	1918
	---; 230	Wilson	1950
	---; 279	Anonymous	1915
<i>foliis</i>	---; 322	Theiler	1947
Dönitz			

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>RHIPICEPHALUS</i>			
<i>fulvus</i> Neumann	---; 8	Clastrier	1936
	---; 71, 225	Morel	1958
	---, 316. (Possible vector of <i>Toxoplasma gondii</i>)	Senevet	1937
<i>gertrudae</i> Feldman- Muhsam	---; 322	Feldman- Muhsam	1960
<i>glabroscutatus</i> du Toit	---; 322	du Toit	1941
<i>guilhoni</i> Morel & Vassiliades	---; 13, 61, 71, 112, 201, 225, 226, 273, 324	Morel & Vassiliades	1962
<i>humeralis</i> Rondelli	---; 163, 284, 364	Theiler	1962
<i>huxti</i> Wilson	---; 44, 320, 361	Theiler	1962
	---; 163	Wilson	1954
<i>jeannelli</i> Neumann	---; 54, 163, 364	Theiler	1947
	---; 362	Zumpt	1943
<i>kochi</i> Dönitz	---; 13, 44, 163, 320, 361, 364	Hoogstraal	1956
	---; 54	Theiler	1947
<i>longiceps</i> Warburton	---; 14	Theiler	1947
	---; 56	Theiler	1962
<i>longicoxatus</i> Neumann	---; 13, 111, 163, 284, 285	Hoogstraal	1956
	---; 44, 319	Morel & Mouchet	1958
	---; 54	Lewis	1939
	---; 292	Theiler	1962
	---; 364	Theiler	1947
<i>longus</i> Neumann	---; 13, 14, 111, 214, 226, 230, 320	Hoogstraal	1956
	---; 44, 175	Bequaert	1930
	Feb., May, Dec.; 61	Morel & Mouchet	1958
	---; 115, 156, 163, 206, 361, 364	Theiler	1962
	---; 319	Morel & Finelle	1961

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>RHIPICEPHALUS</i>			
<i>lunulatus</i> Zumpt	---; 187	Theiler	1947
<i>lunulatus</i> Neumann	---; 13	Hoogstraal	1954
	---; 14 44, 112, 361	Theiler & Robinson	1954
	---; 54	Lewis	1939
	---; 230, 320	Neave	1912
	---; 279, 307, 364	Zumpt	1943a.
	---; 319	Morel & Finelle	1961
	---; 32	Bedford	1920
<i>macropis</i> Schulze	---; 13	Schulze	1936a.
<i>maculatus</i> Neumann	---; 54	Lewis	1939
	---; 61, 320	Warburton	1933
	---; 163, 322	Bedford & Hewitt	1925
	---; 227	Theiler & Robinson	1954
	---; 230, 364	Zumpt	1942
	---; 292. (Bites man)	Theiler	1962
<i>masseyi</i> Nuttall & Warburton	---; 14, 44, 214, 361	Theiler	1962
	---; 227, 322	Theiler	1947
	---; 230	Wilson	1950
	---; 364	Zumpt	1943
<i>mühlensi</i> Zumpt	---; 13, 44, 163, 214, 322	Hoogstraal	1956
	---; 361	Pierquin & Niemegeers	1957
	July; 364	Aeschlimann	1961
<i>neavei</i> Warburton	---; 44, 227, 230. (On man)	Bequaert	1931
	---; 54	Lewis	1939
	Grass, plains; 163	Lewis et al.	1946

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>HAIPHCEPHALUS</i>			
<i>neavei</i>	---; 226	Simpson	1911
Warburton (cont.)	---; 284	Franchini	1912
	---; 320	Neave	1912
	---; 361	Theiler & Rudolfson	1962
	---; 364	Morstatt	1913
<i>neavei</i>	---; 14	Dies	1950
<i>punctatus</i> Warburton	---; 230	Wilson	1950
<i>nitens</i> Neumann	---; 163	Lewis	1931a.
	---; 227	Neave	1912
	---; 322	Howard	1908
	---; 364	Morstatt	1913
<i>oculatus</i> Neumann	---; 14, 43, 56, 163, 292	Zumpt	1958
	---; 54	Lewis	1939
	---; 102	Stella	1938
	---; 227, 320	Theiler	1962
	---; 322	Bedford	1920
	---; 364	Morstatt	1913
<i>pluvius</i> <i>porphyreus</i> Neumann	---; 44, 61*, 175*, 206 Forest species; 61	Rageau	1953a.
	---; 319	Morel & Mouchet	1958
		Morel & Finelle	1961
<i>pluvius</i> <i>pluvius</i> Neumann	---; 163, 363, 364	Zumpt	1943a.
<i>pluvius</i> (Panzer)	---; 175	Bequaert	1930
<i>pluvius</i> Dönitz	---; 13*, 14, 43, 44, 56, 61, 100, 102, 163, 214, 226, 227, 230, 284, 285, 292, 320, 361, 364	Hoogstraal	1956
	---; 54	Zumpt	1942a.
	Bushveld region; 324	Walker	1956
	June; 364*	Aeschlimann	1961

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>Rhipicephalus</i> <i>pulex</i> Gerstaecker	---; 54 Introduced from East Africa, but not established; 96 ---; 100 Suggested vector of Abyssinian tick-borne typhus; 102*. Suggested vector of Kenya typhus; 163 On plains, in acacia desert grass and in acacia tall grass savannah; 163. ---; 284 Suspected vector of tropical typhus; 163° Grass, eight inches high; 163 ---; 285. (Bites man) ---; 320, 364	Dick & Lewis Hoogstraal & Kaiser Stella Charters Theiler & Robinson Roberts Lewis Theiler Bequaert	1947 1958 1938 1946 1953a. 1935 1934 1962 1930
<i>pulex</i> <i>humeralis</i> Rondellii	---; 284	Zumpt	1942
<i>pulex</i> <i>pulex</i> Gerstaecker	---; 102, 163, 320, 359, 364	Zumpt	1942
<i>punctatus</i> Bedford	---; 56, 322	Bedford	1929
<i>pulex</i> Gil Collado	All year, nymphatic peaks, June-Jan., larval peak May- Oct., adult peak Feb.-Aug.; 211. ---; 316	Morel & Vassiliades	1962
<i>rechenovi</i> Zumpt	---; 44, 163, 214, 230, 364	Theiler	1962
<i>sanguineus</i> Latreille	Experimental transmission of Hispano-African relap- sing fever; 8° Appears in great numbers from Apr.-Aug. with peak in May; 8 Naturally infected with <i>Spirochaeta hispanica</i> ; 8* Spring-Oct.; 8 ---; 12 ---; 14, 340 ---; 43	Sergeant Sergeant & Poncet Sergeant & Levy Brumpt King Fiedler Theiler	1933 1937 1935 1920 1926 1953 1962

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>RHIPICEPHALUS</i> <i>sanguineus</i> Latreille (cont.)	---; 44, 96, 176, 186, 213, 273, 279, 284, 285, 307, 316, 322, 364. (Ubiquitous species, vector of human "fièvre boutonnaise" in the Mediterranean region, recurrent fever, <i>Spirochaeta hispanica</i> ; experimentally transmitted "fièvre pourpre des montagnes rocheuses", suspected vector of toxoplasmosis and Indian tick typhus, found to carry in nature <i>Trypanosoma cruzi</i> in South America)	Senevet	1937
	---; 54	Dick & Lewis	1947
	---; 56	Bedford	1926
	June-Aug., Dec.-Feb.; 61	Morel & Mouchet	1958
	---; 61*	Rageau	1953a.
	---; 71	Morel & Magimel	1959
	---; 89	Morel	1957 (1958)
	Infected with <i>Rickettsia prowazeki</i> ; 96	Carpano	1936
	---; 100	Stella	1938
	---; 102*. (Suspected vector of Kenya typhus)	Charters	1946
	Naturally infected with <i>Rickettsia conori</i> ; 112	Giroud et al.	1957
	---; 113, 117, 131, 156, 201, 225, 307, 324	Morel	1958
	---; 123	Findlay & Archer	1948
	---; 132	Tendeiro	1946
	Naturally infected with <i>Rickettsia burneti</i> ; 163	Heisch et al.	1962
	Enters houses; 163*	Roberts	1935
	---; 175	Bequaert	1930
	---; 186	Buck	1935
	---; 206, 227, 319, 361	Theiler & Robinson	1954
	Experimentally infected with Q-fever; 211	Blanc et al.	1947
	Active the whole year with peak from Mar.-Aug.; 211	Gaid & Nain	1935
	---; 214	Feldman-Muhsam	1956

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>RHIPICEPHALUS</i>			
<i>sanguineus</i>	Apr.; 226	Philip	1931
Latreille			
(cont.)	---; 230*	Wilson	1943
	---; 284	Stella	1940
	---; 292	Jack	1928
	Naturally infected with and experimentally trans- mitted with "fievre boutonneuse"; 316	Durand	1931
	---; 322. (<i>Demacentrozenus rickettsi</i> var. <i>pijperi</i> . Infection was picked up by larvae and transmitted as nymphs, picked up by nymphs and transmitted as adults, and passed through the eggs to larvae of the next generation.)	Neitz et al.	1941
	---; 322. (Sometimes attacks man)	Howard	1908
<i>sanguineus</i>	---; 44, 163	Bequaert	1931
var. <i>punctatissi-</i>			
<i>mus</i>			
Gerstaecker			
<i>sanguineus</i>	---; 8, 13, 14, 44, 56, 61°, 96°, 100°, 102, 111, 113, 115, 117, 123, 132, 186, 211, 214, 226, 227, 230, 275, 279, 284, 285°, 292°, 307, 316, 322, 361, 364. In human habitations, suspected vector of boutonneuse fever; 163°, 320. (Experimental induction of tick paralysis by injection of tick eggs and ovaries, experimental infection and transmission with Q-fever <i>Coxiella burnetii</i> and with relapsing fever <i>Borrelia hispanica</i> by its bite, experimentally infected with yellow fever, tularemia, <i>Toxoplasma gondii</i> , kala-azar <i>Leishmania donovani</i> , Chagas disease <i>Trypanosoma cruzi</i>)	Hoogstraal	1956
<i>sanguineus</i>			
Latreille	---; 13°	Hoogstraal	1954
	---; 43. (Ectoparasite of man, cosmopolitan, transmits tick-bite fever <i>Rickettsia donovani</i> in Africa south of the Sahara)	Zumpt	1958
	Apr.-July; 112°	Lamontellerie	1960
	All year; 156. ---; 175, 284. Feb.-May, Aug.-Nov.; 211. Mar.-June; 273	Morel & Vassiliades	1962
	---; 176	Hoogstraal & Kaiser	1960
	---; 273	Hoogstraal & Theiler	1959
	May-Sept.; 364°	Aeschlimann	1961

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>Rhipicephalus</i>			
<i>sculptus</i>	---; 13	King	1926
var. <i>sulcatus</i>			
Neumann	---; 61	Rageau	1953
<i>schuetzi</i>	---; 44	Larrousse	1927
Larrousse			
<i>sculptus</i>	---; 227	Theiler	1962
Warburton	---; 230	Theiler	1947
<i>senegalensis</i>	---; 8	Feldman-	
Feldman-		Muhsam	1956
Muhsam			
<i>senegalensis</i>	---; 13, 61, 71, 89, 115, 123, 131, 132, 156, 163, 226, 230, 273, 279, 292, 307, 320, 324, 364	Theiler	1962
Koch	---; 44, 112, 206, 319	Theiler & Robinson	1954
<i>senegalensis</i>	---; 214	Theiler	1962
Dias			
<i>simpsoni</i>	---; 13, 163, 214, 364	Hoogstraal	1956
Nuttall	---; 43, 156, 175	Theiler	1962
	---; 44	Bequaert	1930a.
	June-July; 61, 89, 101, 322	Morel & Mouchet	1958
	Apr.; 112	Lamontellerie	1960
	---; 226, 320	Bedford	1936
	---; 230	Wilson	1950
	---; 319	Morel & Finelle	1961
<i>simpli-</i>	--- 13	Karrar et al.	1963
Koch	---; 14, 227, 319, 361	Theiler & Robinson	1954
	---; 43, 56, 61, 112, 115, 156, 175, 201, 295, 307, 324. Wooded island refuges; 71. Thick, herbaceous vegetation; 113. (Bites man)	Theiler	1962
	---; 44, 96, 175, 322, 364	Bequaert	1930
	Naturally infected with <i>Rickettsia</i> and suspected vector organism East African tick-bite fever; 54	Dick & Lewis	1947
	---; 100*, 284	Stella	1938

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>RHIPICEPHALUS</i>			
<i>simus</i> Koch (cont.)	Experimentally infected with <i>Rickettsia prowazeki</i> ; 102	Reiss-Gutfreund	1956 (1957)
	---; 123	Simpson	1914
	---; 132	Tendeiro	1946
	Naturally infected with <i>Rickettsia conori</i> and <i>Rickettsia burnetti</i> ; 163	Heisch et al.	1962
	Experimental transmission of rickettsiae to man; 163	Heisch et al.	1957
	Naturally infected with <i>Rickettsia conori</i> ; 163*	Timms et al.	1959
	Grass; 163	Lewis et al.	1946
	---; 176	Stella	1938a.
	---; 214	Campana-Rouget	1959
	---; 216	Beijer	1915
	---; 226	Simpson	1912
	Jan.-May; 230	Theiler	1947
	---; 279	Simpson	1913
	---; 292	Jack	1928
	---; 316	Brumpt	1920
	---; 320	Neave	1912
	---; 322*	Bedford	1920
	---; 322*	Stamm	1959
<i>simus</i> <i>erlangeri</i> Neumann	---; 102	Stella	1940
<i>simus</i> <i>longicollis</i> Zumpt	---; 44, 123, 206, 279, 307	Zumpt	1943
<i>simus</i> var. <i>luculatus</i> Neumann	---; 44	Bequaert	1930a.
	---; 163	Lewis	1931a.
<i>simus</i> <i>sergalensis</i> Koch	---; 13, 44, 111, 113, 123, 156, 226, 230, 279, 307, 320, 361. Naturally infected with Q-fever <i>Coxiella burnetii</i> ; 132	Hoogstraal	1956

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>RAPIICERPHALUS</i>			
<i>sirus</i>	Mar.-May, Nov.-Dec., domestic; 61	Morel & Mouchet	1958
<i>opiegilensis</i> Koch			
(cont.)	---; 89, 112, 131, 273, 324	Morel	1958
	---; 319	Morel & Fineale	1961
	July; 364	Aeschlimann	1961
<i>sirus</i> var. <i>shipleyi</i> Neumann	---; 44	Bequaert	1930a.
<i>sirus</i> <i>sirus</i> Koch	---; 13*, 14, 100, 111, 163, 227, 275, 284, 285, 292, 320, 361, 364*. (Associated with boutonneuse fever <i>Hickettia conorii</i>)	Hoogstraal	1956
	---; 43. (Frequently attacks man, practically found all over the Einiopian region, suspected of causing tick paralysis in man)	Zumpt	1958
	---; 44, 54, 102, 214, 230, 344, 322	Zumpt	1943a.
	---; 61	Rageau	1953a.
	---; 71, 273, 319, 324	Morel	1958
	Introduced from Sudan and East Africa, but not established; 96	Hoogstraal & Kaiser	1958
	Apr., Aug., Nov.; 112	Lamontellerie	1960
	---; 226	Thorpe & Walker	1964
	---; 284*	Hoogstraal	1952
	May-Oct.; 364*	Aeschlimann	1961
	---; 364	Hoogstraal & Theiler	1959
<i>sirus</i> <i>tricuspis</i> Döritz	---; 284	Stella	1940
<i>sulcatus</i> Neumann	---; 8, 13*, 14, 43, 56, 61, 71, 100, 102, 115, 156, 214, 273, 307, 316, 319	Morel & Vassiliades	1962
	---; 13, 227, 230	Hoogstraal	1956
	---; 44, 206	Bequaert	1931
	---; 54	Lewis	1939
	---; 111	Theiler	1962

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>RHIPICEPHALUS</i>			
<i>suicatus</i> Neumann (cont.)	---; 112	Theiler & Robinson	1954
	---; 226	Simpson	1912
	---; 292	Jack	1928
	---; 320	Weave	1914
	---; 322	Theiler & Robinson	1953a.
	---; 364	Zumpt	1942b.
<i>supertritus</i> Neumann	---; 13, 61, 100, 214, 227, 320, 364	Hoogstraal	1956
	---; 14	Bequaert	1931
	---; 44, 230	Theiler	1947
	---; 54	Lewis	1939
	---; 163	Lewis	1933
	---; 292	Jack	1928
<i>tendeiroi</i> Dias	---; 214	Theiler	1962
<i>theileri</i> Bedford & Hewitt	Very rare species; 43	Zumpt	1958
	---; 56	Theiler	1962
	---; 322	Theiler	1947
<i>tricuspis</i> Dönitz	---; 13, 14, 56, 61, 111, 113, 132, 163, 214, 226, 279, 284, 320, 322	Hoogstraal	1956
	---; 42, 44, 123, 227, 307, 364. Abundant during late Nov.-early Feb.; 230	Theiler	1947
	---; 43	Bequaert	1931
	---; 54	Lewis	1939
	June, July; 61. (Species of savannah)	Morel & Mouchet	1958
	---; 71	Morel & Maginel	1959
	---; 89, 123, 131, 273, 307, 319, 324	Morel	1958
	---; 112, 156, 206, 292	Theiler	1962
	---; 361	Pierquin & Kiemegeers	1957

TABLE 1 - TICKS (conclusion)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>RHIPICEPHALUS</i>			
<i>turanicus</i> Pomerancev & Matikasvili	---; 9, 211, 316	Morel & Vassiliades	1962
<i>ziemanni</i> Neumann	---; 14, 254. (Bites man, ---; 44, 361	Theiler Pierquin & Niemegeers	1962 1957
	---; 61, 175	Theiler	1947
	---; 89, 113, 123, 131, 156, 273, 279	Morel	1958
	---; 115	Zumpt	1943
	---; 206, 319	Theiler & Robinson	1954
	---; 226	Unsworth	1952
<i>ziemanni</i> form <i>aurantiacus</i>	---; 61	Morel & Mouchet	1958
<i>ziemanni</i> form <i>brevicoxatus</i>	Apr., grotto; 61	Morel & Mouchet	1958
<i>ziemanni</i> <i>ziemanni</i> Neumann	Mar.-June, Nov.; 61	Morel & Mouchet	1958

TABLE 2 - SUMMARY OF DISEASES OR DISEASE ORGANISMS TRANSMITTED BY TICKS

SPECIES	DISEASE OR DISEASE ORGANISM					COUNTRY
	: VIRUS & : RICKETTSIA	: PROTOZOA	: HELMINTHS	: OTHER	:	
<i>AMBLYOMMA</i> <i>hebraeum</i> Koch	Tick-borne typhus					322
	Tick-bite fever					322 (Pijper & Dau)
<i>BOOPHILUS</i> <i>decoloratus</i> Koch	Tick-borne typhus					230, 322
	Tick-bite fever					322 (Pijper & Dau)
<i>HAEMAPHYSALIS</i> <i>leachi</i> (Audouin)	Tick-borne typhus					322
	Tick-bite fever					44
<i>HYALOMMA</i> <i>truncatum</i> Koch				Tick paralysis		322
<i>IXODES</i> <i>rubicundus</i> Neumann				Tick paralysis		322
<i>ORNITHODOROS</i> <i>erraticus</i> Lucas	<i>Spirochaeta</i> <i>hispanica</i>					8, 211
	Human spirochaete					273
	<i>Spirochaeta</i> <i>normandi</i>					316
	<i>Spirochaeta</i> <i>dipodilli</i>					163
<i>erraticus</i> var. <i>maroccanus</i> Vélu	Dakar relapsing fever					273
<i>foleyi</i> Parrot				Local lesions similar to chancre		8, 176
	Tick-bite fever					176

TABLE 2 - TICKS (continued)

SPECIES	DISEASE OR DISEASE ORGANISM					COUNTRY
	VIRUS &					
	RICKETTSIA	PROTOZOA	HELMINTHS	OTHER		
ORNYTHODOROS						
maroccanus	Spirochaeta					
Vélu	hispanica					
	var. maro-					
	canum					211
moubata	Spirochaeta					
(Murray)	duttoni					154, 186, 322
	African					
	relapsing					
	fever					
	(Spirochaetosis)					14, 44, 230, 284 (Stella), 292
	Borrelia					
	duttoni					
	(relapsing					
	fever)					43, 186 (Geigy & Herbig), 364
	Human					
	spirochaetosis					186 (Bück)
	Relapsing					
	fever					163, 284
normandi	Spirochaeta					
Larrousse	normandi					316
savignii	Relapsing					
Audouin	fever					102, 163
RHIPICEPHALUS						
appendiculatus	Tick-borne					
Neuman	typhus					
	(Rickettsia)					230, 322
	Tick-bite					
	fever					322 (Pijper & Dau)
	African					
	coast					
	fever					364
sanguineus	Relapsing					
Latreille	fever					102
	Tropical					
	typhus					
	(tick fever)					163

TABLE 2 - TICKS (conclusion)

SPECIES	DISEASE OR DISEASE ORGANISM					COUNTRY
	RICKETTSIA	PROTOZOA	HELMINTHS	OTHER		
<i>RHIPICEPHALUS sanguineus</i> Latreille (cont.)	Tick-bite fever (<i>Rickettsia</i>)					230
	<i>Spirochaera hispanica</i>					8
<i>simus</i> Koch	Tick-bite fever					100
				Tick paralysis		322
	Tick typhus					163

TABLE 3 - TICKS
(UNCONFIRMED ENTRIES)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>BOOPHILUS</i>			
<i>annulatus</i> <i>decoloratus</i> Koch	---; 227	le Roux	1937
<i>HYALOMMA</i>			
<i>egyptium</i> <i>dromedarii</i> Koch	---; 284	Rondelli	1926
<i>depressum</i> Schulze	---; 176	Rondelli	1926a.
<i>impressum</i> Koch	---; 227	le Roux	1937
<i>ORNITHODOROS</i>			
<i>savignyi</i> Audouin	In houses; 44 Around huts or dwellings; 284	Ghesquière Drake-Brockman	1922 1915
<i>RHIPICENTOR</i>			
<i>gladiger</i> Neumann	---; 292	Jack	1935
<i>RHIPICEPHALUS</i>			
<i>bursa</i> Canestrini & Panlago	---; 96	Mason	1915
<i>evertsi</i> Neumann	---; 96	Mason	1915
<i>maculatus</i> Neumann	---; 214	Anonymous	1914
<i>neavei</i> Warburton	---; 214	Anonymous	1914
<i>oculatus</i> Neumann	---; 96	Mason	1915
<i>pulchellus</i> Gerstaecker	---; 214	Anonymous	1914
<i>simus</i> Koch	---; 186	Brumpt	1921

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L. MITES

The entries for mites include a wide variety of species, most of which seldom bite man. For the most part, there are no biological entries. The trombiculid entries are, of course, for larval stages. Most of the others will be for various stages, but mostly for adults.

There are only 26 species or subspecies recorded in the tables.

TABLE 1 - MITES

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>BDELLONYSSUS</i> <i>bursa</i> Berlese	Naturally infected with Sindbis virus; 96	Shah et al.	1960
<i>DEMODEX</i> <i>folliculorum</i> var. <i>hominis</i>	---; 8°	Sergent	1940
<i>DERMANYSSUS</i> <i>gallinae</i> Hirst	Causes itching, papule; 131° ---; 322°	Joyeux Hirst	1915 1925
<i>ENDOTROMBICULA</i> <i>penetrans</i> Ewing	---; 163	Dollfus	1933
<i>ECOTETRANYCHUS</i> <i>telarius</i> Linnaeus	June; 8*°	Mandoul et al	1956
<i>LEIOGNATHUS</i> <i>morsitans</i> Hirst	---; 117, 186, 226, 230, 322, 364°	Hirst	1915
<i>LIPONYSSUS</i> <i>bacoti</i> Hirst	---; 322 Found in beds of human beings; 322°	de Meillon & Lavoipierre Hirst	1944 1926
<i>bursa</i> Berlese	---; 322°, 364°	de Meillon & Lavoipierre	1944
<i>ORNITHONYSSUS</i> <i>bacoti</i> Hirst	---; 96. (Attacks man, causes dermatitis)	Williams & Ker-hav	1961
<i>PEDICULOIDES</i> <i>ventriosus</i> Newport	Causes erythema in man, found mostly in new barley, straw or wheat, sweet peas and beans; 8*° ---; 96° ---; 211*	Sergent Willcocks Askins	1910 1914 1924
<i>SCHÖNGASTIA</i> <i>aethiopica</i> Hirst	Found attached to eyelid of an infant; 320. ---; 123, 186	Audy	1952
<i>TARSONEMUS</i> <i>hominis</i> (Dahl)	---; 211*	Samsinak & Jarry	1960

TABLE 1 - MITES (conclusion)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TROMBICULA</i>			
<i>abyssinica</i> Radford	---; 102	Radford	1947
<i>algerica</i> André	---; 8	Galliard	1933
<i>ardeas</i> Tragardh	---; 13	Radford	1942
<i>centropodia</i> Ewing	---; 175	Bequaert	1930
<i>gyniotia</i> Radford	---; 322	Radford	1947
<i>deschiensi</i>	---; 211	Blanc et al.	1962
<i>legaci</i> André	---; 206	Le Gac	1953
	---; 319	André	1950
<i>mactomyia</i> Radford	---; 279	Radford	1947
<i>minutissimum</i> Oudemans	---; 322	Radford	1942
<i>nigeriensis</i> Ewing	---; 226	Ewing	1928
<i>praomyia</i> Radford	---; 279	Radford	1947
<i>sulae</i> Oudemans	---; 57	Radford	1942
<i>tragardhi</i> Oudemans	---; 13	Radford	1942
<i>yohaneis</i> Abonnenc & Toufflié	January; 71	Abonnenc & Toufflié	1957
<i>TYROGLYPHUS</i>			
<i>siro</i> (Linnaeus)	---; 61°	Rousseau	1918

TABLE 2 - SUMMARY OF DISEASES OR DISEASE ORGANISMS TRANSMITTED BY MITES

SPECIES	DISEASE OR DISEASE ORGANISM					COUNTRY
	VIRUS &	RICKETTSIA	PROTOZOA	HELMINTHS	OTHER	
	:	:	:	:	:	
<i>EOTETRANYCHUS</i> <i>telarius</i> Linnaeus					Dermal Erythema - "Dermite érythémato- papuleuse"	8
<i>PEDICULOIDES</i> <i>ventricosus</i> Newport					Dermatitis	211
					Erythema	8
<i>TARSONEMUS</i> <i>hominis</i> (Lahl)					Parasite found in spinal fluid	211

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M. MISCELLANEOUS ARTHROPODS

The entries listed as miscellaneous arthropods are largely scorpions and spiders. There are in all only 34 species or subspecies listed.

TABLE 1 - MISCELLANEOUS ARTHROPODS

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>BUTTACUS</i> <i>duroeti</i> Pallary	---; bites could be fatal on infants; 8°	Pallary	1937
<i>BUTHUS</i> <i>arenicola</i> Sergent	---; powder of this species causes mild sneezing; 8°	Sergent	1935
<i>maritimus</i> (Pocock)	---; nocturnal, enters houses, sting sometimes fatal, present June to Oct.; 211°	Marcenac	1926
<i>occitanus</i> Amrx.	---; lives under flat shelters, usually stones, crevices in stone walls, bites all year, max. June-July, bite sometimes fatal; 8°	Bouisset & Larrouy	1962
	---; caused infant's death; 8°	Sergent	1936
	---; ---; 8°. (Very frequent on coast and in Sahara, hides under stones and in sand)	Sergent	1938a
<i>CATHARIS</i> <i>sesostris</i> Dej.	---; specimens passed in human stool; 13	Lewis	1958
<i>GALEO</i> ES <i>olivieri</i> Simon	---; enters tents, occasionally causes urticaria; 211	Marcenac	1925
<i>CYNAIKOTHRIPS</i> <i>useli</i> Zimmerman	---; on contact with eye causes acute pain and appears to bite man; 8°	Senevat	1922
<i>HARPACTORRELLA</i> <i>lightfooti</i> Purcell	---; bite may produce severe illness, very active and aggressive; 322°	Finlayson	1939
<i>HETEROMETRUS</i> <i>maurus</i> Linnaeus	---; sting occasionally fatal; 8	Sergent	1925
	---; ---; 8°. (Bite not dangerous in general, very frequent on coast and in Sahara)	Sergent	1938a.
	---; sting not too venomous; 211°	Marcenac	1926
<i>BOTTENTOTA</i> <i>gentili</i> Piry.	---; enters houses; 211°	Sergent	1943
<i>LATRODECTUS</i> <i>concinus</i> Camb.	---; bite usually serious and sometimes fatal; 322°	Finlayson	1936
<i>geometricus</i> Koch	---; bite usually serious and sometimes fatal; 322°	Finlayson	1936

TABLE 1. MISCELLANEOUS ARTHROPODS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>LATRODECTUS</i>			
<i>indistinctus</i> Camb.	---; bite usually serious and sometimes fatal; 322°	Finlayson	1936
<i>mactans</i> Fabricius	---; ---; 8. ---; venomous; 186°	Fullaway	1926
<i>menavody</i> Vinson	---; Mar., Apr.; 186°. (Bite causes violent pain)	Constant & Gouère	1946
<i>NEOHAEEMATOPINUS</i>			
<i>pectinifer</i> Neumann	---; experimental transmission of Hispano African relapsing fever to man and rats, also naturally infected with spirochetes; 211	Blanc et al.	1933
<i>ORYA</i>			
<i>barbarica</i> Gerv.	---; ---; 211°	Marcenac	1926
<i>PEDICULUS</i>			
<i>humanus</i> Linnaeus	---; ---; 44*	Barlovatz	1940
	---; ---; 163°	Anderson	1924
	---; ---; 201°	Waterston	1925
	---; naturally infected with relapsing fever <i>Spirochaeta</i> ; 226	McCulloch	1925
	---; a pest; 364°	Aders	1917
<i>humanus</i> <i>capitis</i> de Geer	---; ---; 8*, 44*, 96*, 102*, 211*, 316*	Geigy & Herbig	1955
	---; ---; 322*	Gear et al.	1944
<i>humanus</i> <i>corporis</i> de Geer	---; naturally infected with spirochete; 163°	Garnham et al.	1947
	---; experimental transmission of <i>Spirochaeta duttoni</i> and <i>Spirochaeta recurrentis</i> in animals; 163	Heisch & Garnham	1948
	---; ---; 163*	Charters	1946
	---; ---; 322*	Erain	1929
	---; ---; 322*	Gear et al.	1944
<i>vestimenti</i> Linnaeus	---; experimentally infected with recurrent fever; 8°	Sergeant & Foley	1922
	---; experimentally infected with exanthematic typhus, naturally infected with a coccobacillus, suspected to be virus of exanthematic typhus; 8	Sergeant et al.	1914
	---; ---; 8*, 44*, 96*, 102*, 211*, 316*	Geigy & Herbig	1955

TABLE 1. MISCELLANEOUS ARTHROPOD; (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PEDICULUS</i>			
<i>vestimenti</i> Linnaeus (cont.)	---; ---; 112*	Kerrest	1922
	---; ---; 176*	Franchini	1935
<i>PHTHIRUS</i>			
<i>pubis</i> Linnaeus	---; ---; 201°	Waterston	1925
<i>PRIONURUS</i>			
<i>aeneas</i> Koch	---; ---; 8. (Venomous)	Sergeant	1948
<i>amoureuxi</i> (Andouin)	---; slightly venomous; 8°, 113°, 211. ---; stings man; 211°	Sergeant	1941
<i>australis</i> Linnaeus	---; venomous, suspected cause of the majority of death due to scorpion stings; 8. ---; ---; 211°	Sergeant	1936
	---; definite cause of death; 8°. Suspected cause of death by scorpion sting; 316°	Sergeant	1938
	---; powder causes violent sneezing; 8	Sergeant	1935
	---; ---; 8°	Clastrier	1936
	---; causes death; 316. (In desert regions, near human communities, in houses)	Sergeant	1938a.
<i>australis</i> <i>flavus</i> Ply.	---; ---; 8°. (Sting almost always fatal)	Sergeant	1936
<i>australis</i> <i>priamus</i> K.	---; sting occasionally fatal; 8°	Sergeant	1936
<i>citrinus</i> Hemprich & Ehrenberg	---; sting occasionally fatal; 8°	Sergeant	1936
<i>noggarensis</i> Ply	---; enters houses, stings man, July; 8°	Sergeant & de Jolinier	1945
<i>liouvillei</i> Ply.	---; sting occasionally fatal; 8°	Sergeant	1936
	---; can cause death of children; 211°. ---; ---; 8°. (In Sahara, frequently in houses.)	Sergeant	1938a.
	---; suspected cause of death due to scorpion bite; 211°	Sergeant	1938

TABLE 1. MISCELLANEOUS ARTHROPODS (conclusion)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>SCLERODERMA</i> <i>abdominalis</i> Westwood	---; ---; 8°	Mandoul et al.	1950
<i>willastoni</i> Westwood	---; Mar.-May, enters houses, stings man during day; 279°	Walton	1948
<i>SCORPIO</i> <i>maurus</i> Linnaeus	---; digs holes in ground stays there, comes out at night; 8°	Bouisset & Larrouv	1962

TABLE 2 - SUMMARY OF DISEASES OR DISEASE ORGANISMS TRANSMITTED BY
MISCELLANEOUS ARTHROPODS

SPECIES	DISEASE OR DISEASE ORGANISM					COUNTRY
	:	VIRUS &	:	:	:	
	:	RICKETTSIA	:	PROTOZOA	:	
	:		:	HELMINTHS	:	
	:		:		:	
<i>PEDICULUS</i>						
<i>humanus</i>		Typhus				44
Linnaeus						
<i>humanus</i>		Rickettsia				8, 44,
<i>capitis</i>		prowazeki				96, 102,
de Geer		(Da Rocha Lima)				211, 316
		Typhus				322
<i>humanus</i>		Kenya Spirochaete				163
<i>corporis</i>		(related to				
de Geer		<i>Spirochaeta</i>				
		<i>carteri</i>)				
		Epidemic typhus				322
		Typhus fever				322
						(Strain, 1929)
<i>vestimentii</i>		Relapsing fever				112
Linnaeus		sphirochetes				
		Rickettsia				8, 44,
		prowazeki				96, 102,
						211, 316
		Relapsing fever				176

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8(1):102.

Unclassified

Security Classification

DOCUMENT CONTROL DATA - R&D		
(Security classification of title, body of abstract and indexing annotation must be entered when the overall report is classified)		
1. ORIGINATING ACTIVITY (Corporate author)		2a. REPORT SECURITY CLASSIFICATION
Cornell University Ithaca, New York 14850		Unclassified
		2b. GROUP
3. REPORT TITLE		
ARTHROPODS OF MEDICAL IMPORTANCE IN AFRICA		
4. DESCRIPTIVE NOTES (Type of report and inclusive dates)		
5. AUTHOR(S) (Last name, first name, initial)		
Travis, B.V., C.E. Mendoza, R.M. Lebadan		
6. REPORT DATE	7a. TOTAL NO. OF PAGES	7b. NO. OF REFS
February 1967	826 and map	1981
8a. CONTRACT OR GRANT NO.		9a. ORIGINATOR'S REPORT NUMBER(S)
b. PROJECT NO. 1V025001A129		
c.		9b. OTHER REPORT NO(S) (Any other numbers that may be assigned this report)
d.		67-55-ES ES-31
10. AVAILABILITY LIMITATION NOTICES		
Distribution of this document is unlimited. Release to CFSTI is authorized.		
11. SUPPLEMENTARY NOTES		12. SPONSORING MILITARY ACTIVITY
		U.S. Army Natick Laboratories Natick, Massachusetts 01760
13. ABSTRACT		
<p>The occurrence of insects and other arthropods of medical importance in Africa is summarized on the basis of a compilation of all available references in the scientific literature. The report includes, for each major group of arthropods, a listing of species and subspecies with biological and distributional data, tabulations of diseases or disease organisms transmitted, and complete literature citations.</p> <p>The groups of arthropods included, with the number of species or subspecies in parentheses, are:</p> <p>Part I: Mosquitoes (1037)</p> <p>Part II: Arthropods other than mosquitoes: Black flies (103), Sand flies (269), Midges (177), Horse flies (1080), Biting flies (67), Non-biting flies (50), Fleas (363), Bugs (24), Urticating and vesicating arthropods (9), Ticks (424), Mites (26), and Miscellaneous arthropods (33).</p>		

DD FORM 1473

JAN 64

Unclassified

Security Classification

KEY WORDS	LINK A		LINK B		LINK C	
	ROLE	WT	ROLE	WT	ROLE	WT
Distribution	8		8			
Behavior	8					
Arthropods	9		6			
Mosquitoes	9		6			
Flies	9		6			
Fleas	9		6			
Midges	9		6			
Mites	9		6			
Ticks	9		6			
Africa	9		9			
Military medicine	4					
Diseases	..		7,9			
Disease vectors			9			

INSTRUCTIONS

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